SHARP SERVICE MANUAL

No. S3820CDC422//

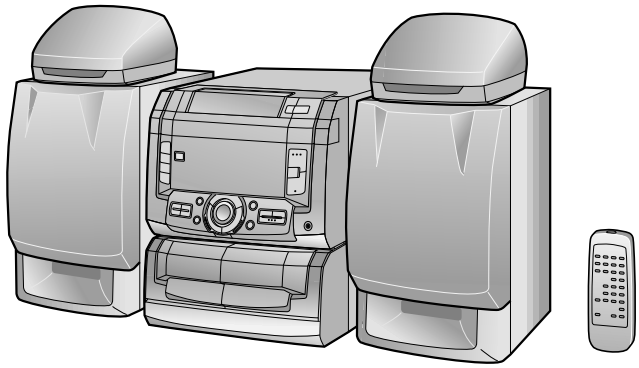

Illustration: CD-C422/C422C

CD-C422/C422C

CP-C422, REAR SPEAKER SYSTEM,
Constitute CD-C422/C422C.

CD-C2800/C2800C

CP-C2800, REAR SPEAKER SYSTEM,
Constitute CD-C2800/C2800C.

- In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

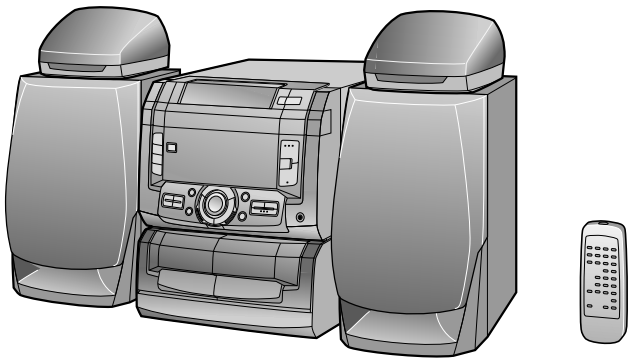

Illustration: CD-C2800/C2800C

COMPACT disc DIGITAL AUDIO

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SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

IMPORTANT SERVICE NOTES (For U.S.A.Only)

BEFORE RETURNING THE AUDIO PRODUCT

(Fire & Shock Hazard)

Before returning the audio product to the user, perform the following safety checks.

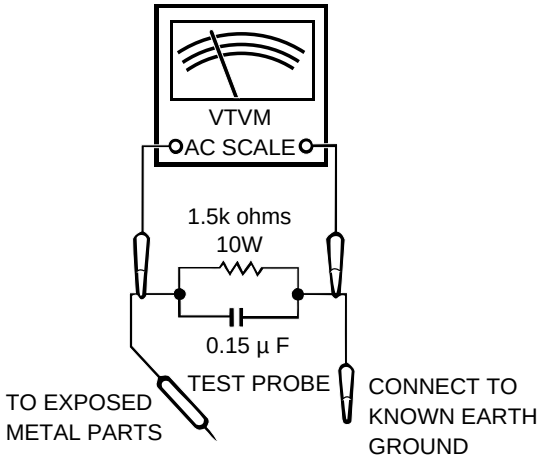
1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the audio product.
2. Inspect all protective devices such as insulating materials, cabinet, terminal board, adjustment and compartment covers or shields, mechanical insulators etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

* Plug the AC line cord directly into a 120 volt AC outlet.

* Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15µF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as conduit or electrical ground connected to earth ground.

* Use a VTVM or VOM with 1000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor (See diagram).

* Connect the resistor connection to all exposed metal parts having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.



All check must be repeated with the AC line cord plug connection reversed.

Any reading of 0.3 volt RMS (this corresponds to 0.2 milliamp. AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the audio product to the owner.

SPECIFICATIONS

CD-C422/C422C/ C2800/C2800C

● General

Power source:	AC 120 V, 60 Hz
Power consumption:	50 W
Dimensions:	Width; 10-5/8" (270 mm) Height; 11-13/16" (303 mm) Depth; 13-7/16" (341 mm)
Weight:	11.2 lbs. (5.1 kg)

● Amplifier section

Output power:	20 watts minimum RMS per channel into
(CD-C422/C2800)	4 ohms from 100 Hz to 20 kHz, 10 % total harmonic distortion
Output power:	MPO; 60 W (30 W + 30 W)
(CD-C422C/C2800C)	(10 % T.H.D.) RMS; 40 W (20 W + 20 W) (10 % T.H.D.)
Output terminals:	Front speakers; 5.4 ohms Rear Speakers; 16 ohms Headphones; 16-50 ohms (recommended; 32 ohms)
Input terminal:	Video/Auxiliaary (audio signal); 245 mV/47 kohms

● Tuner section

Frequency range:	FM; 87.5 - 108 MHz AM; 530 - 1,720 kHz

● Cassette deck section

Frequency response:	50 - 14,000 Hz (Normal tape)
Signal/noise ratio:	55 dB (TAPE 1, playback) 50 dB (TAPE 2, recording/playback)
Wow and flutter:	0.15 % (WRMS)

● Compact disc player section

Type:	3-disc multi-play compact disc player
Signal readout:	Non-contact, 3-beam semiconductor laser pickup
D/A Converter:	1-bit D/A converter
Frequency response:	20 - 20,000 Hz
Dynamic range:	90 dB (1 kHz)

● Front speaker section

CP-C422

Type:	2-way type [5-1/4" (130 mm) woofer and super tweeter]
Maximum input power:	30 W
Impedance:	5.4 ohms
Dimensions:	Width; 7-1/8" (180 mm) Height; 11-13/16" (300 mm) Depth; 8-1/16" (204 mm)
Weight:	4.6 lbs. (2.1 kg)/each

CP-C2800

Type:	3-way type [4" (100 mm) woofer, 2" (50mm) tweeter and super tweeter]
Maximum input power:	30 W
Impedance:	5.4 ohms
Dimensions:	Width; 7-1/8" (180 mm) Height; 11-13/16" (300 mm) Depth; 8-1/16" (204 mm)
Weight:	4.6 lbs. (2.1 kg)/each

● Rear speaker section

REAR SPEAKER SYSTEM

Type:	4" (100 mm) full range speaker
Maximum input power:	10 W
Impedance:	16 ohms
Dimensions:	Width; 6-11/16" (170 mm) Height; 4-3/4" (120 mm) Depth; 6-7/8" (175 mm)
Weight:	1.3 lbs. (0.6 kg)/each

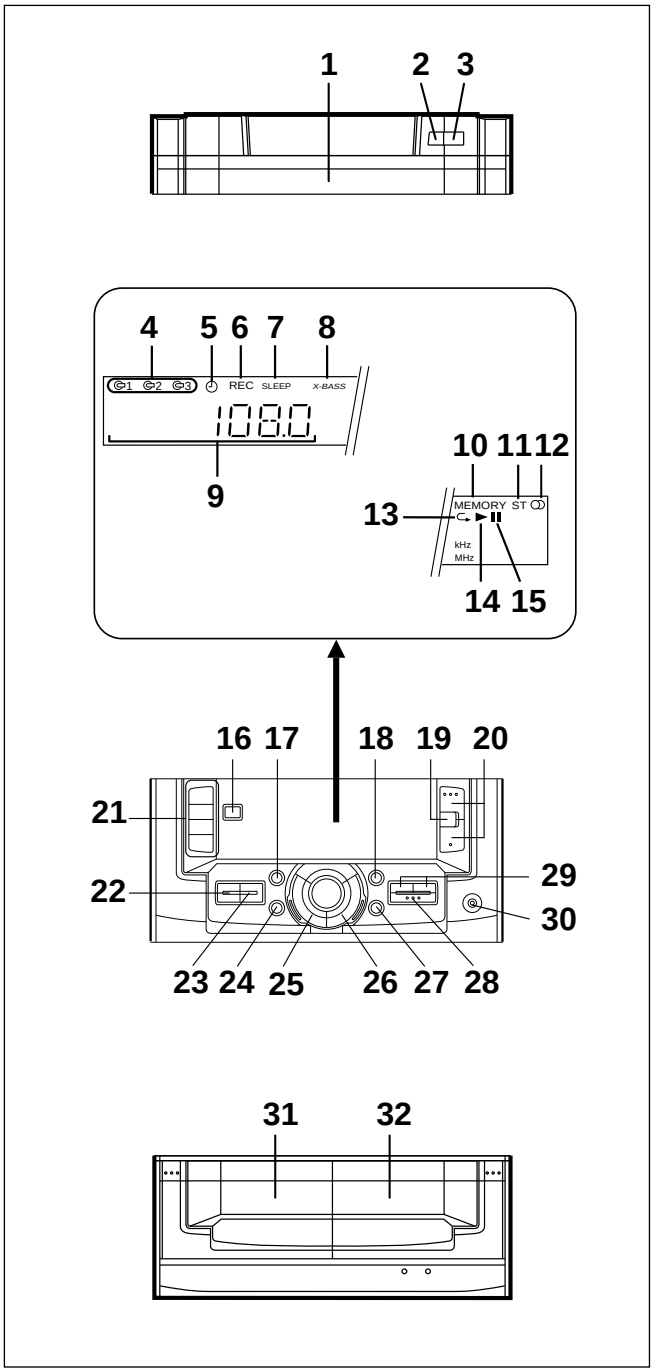
Specifications for this model are subject to change without prior notice.

NAMES OF PARTS

CD-C422/C422C/ C2800/C2800C

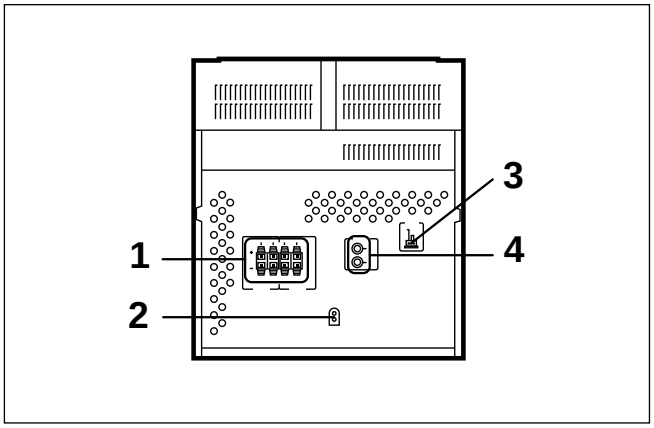
■ Front Panel

1. Disc Tray
2. Disc Skip Button
3. Open/Close Button: ▲
4. Disc Number Indicator
5. Timer Indicator
6. Record Indicator
7. Sleep Indicator
8. Extra Bass Indicator: X-BASS
9. Function/CD Track/CD Counter/Frequency/Preset Channel/Volume/Timer/Sleep Time Indicator
10. Memory Indicator
11. FM Stereo Mode Indicator: ST
12. FM Stereo Indicator: ◯◯
13. CD Repeat Indicator: ⟲
14. CD Play Indicator: ▶
15. CD Pause Indicator: ❚❚
16. Power Button
17. Memory/Set Button
18. Record Pause Button: ●❚❚
19. Extra Bass/Equalizer Mode Button: X-BASS
20. Volume Up/Down Buttons: ▽/△
21. Function Selector Buttons
22. Clock Button
23. Timer/Sleep Button
24. (CD)Track Down/Review Button: ◀◀/|◀◀
    (TUNER)Preset Down Button: ﹀
25. Stop Button: ■
26. Play/Repeat Button: ▶⟲
27. (CD)Track Up/Review Button: ▶▶/▶▶|
    (TUNER)Preset Up Button: ﹀
28. Random/Demo Button
29. Tuning and Time Up/Down Buttons: ﹀/﹀
30. Headphone Socket
31. (TAPE 1) Cassette Compartment
32. (TAPE 2) Cassette Compartment



■ Rear Panel

1. Speaker Terminals
2. AC Power Input Socket
3. FM/AM Loop Aerial Socket
4. Video/Auxiliary (Audio Signal) Input Sockets



■ Speaker Section

● Front Speaker

CP-C422

1. Super Tweeter
2. Woofer
3. Bass Reflex Duct
4. Speaker Wire

CP-C2800

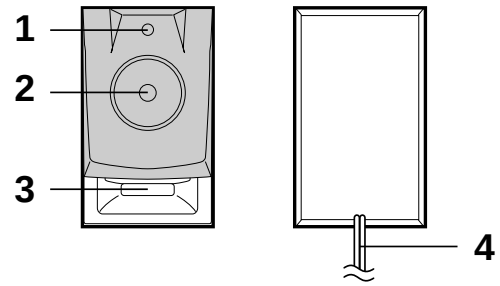
5. Tweeter
6. Super Tweeter
7. Woofer
8. Bass Reflex Ducts
9. Speaker Wire

● Rear Speaker

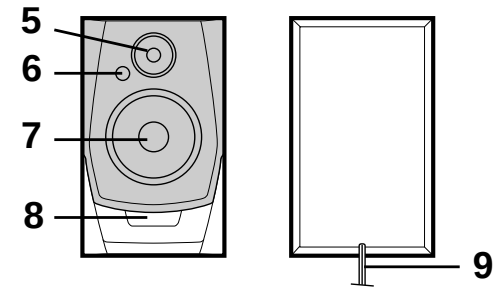
REAR SPEAKER SYSTEM

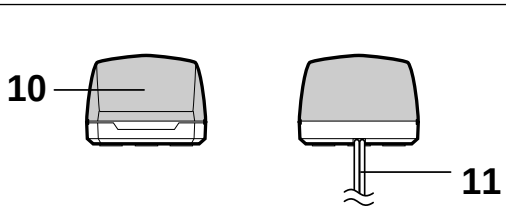
10. Full Range Speaker
11. Speaker Wire

CP-C422



CP-C2800





CD-C422/C422C/ C2800/C2800C

■ Remote Control

1. Remote Control Transmitter LED

● CD Control section

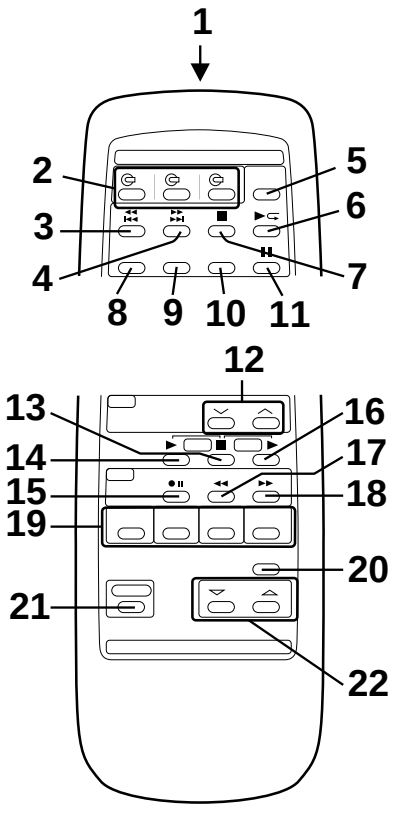
2. Disc Number Select Buttons
3. Track Down/Review Button: ◀◀/I◀◀
4. Track Up/Cue Button: ▶▶/▶▶I
5. Disc Skip Button
6. Play/Repeat Button: ▶
7. Stop Button: ■
8. Memory Button
9. Clear Button
10. Random Button
11. Pause Button: ❚❚

● Tuner control section

12. Preset Up/Down Buttons: ∨/∧

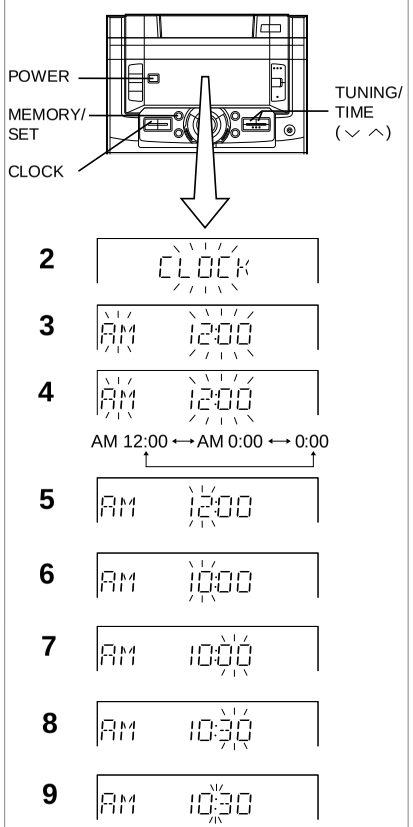
● Tape control section

13. (TAPE 1/2) Stop Button: ■
14. (TAPE 1) Play Button: ▶
15. (TAPE 2) Record Pause Button: ●❚❚
16. (TAPE 2) Play Button: ▶
17. (TAPE 2) Rewind Button: ◀◀
18. (TAPE 2) Fast Forward Button: ▶▶
19. Function Selector Buttons
20. Extra Bass/Equalizer Mode Button
21. Power Button
22. Volume Up/Down Buttons: ▽/△



SETTING THE CLOCK

In this example, the clock is set for the 12-hour (AM 12:00) system.



(Main unit operation)

1 Press the POWER button to turn the power off.

2 Press the CLOCK button.

3 Within 3 seconds, press the MEMORY/SET button.

4 Press the TUNING/TIME (∨ or ∧) button to select the time display mode.
"AM 12:00" → The 12-hour display will appear. (AM 12:00 - PM 11:59)
"AM 0:00" → The 12-hour display will appear. (AM 0:00 - PM 11:59)
"0:00" → The 24-hour display will appear. (0:00 - 23:59)

- Note that this can only be set when the unit is first installed or it has been reset (see page 16).

5 Press the MEMORY/SET button.

6 Press the TUNING/TIME (∨ or ∧) button to adjust the hour.

- Press the TUNING/TIME button once to advance the time by 1 hour. Hold it down to advance continuously.
- When the 12-hour display is selected, "AM" will change automatically to "PM".

7 Press the MEMORY/SET button.

8 Press the TUNING/TIME (∨ or ∧) button to adjust the minutes.

- Press the TUNING/TIME (∨ or ∧) button once to advance the time by 1 minute. Hold it down to change the time in 5 minute intervals.
- The hour setting will not advance even if minutes advance from "59" to "00".

9 Press the MEMORY/SET button.

- The clock starts operating from "0" seconds. (Seconds are not displayed.)

Note:

- In the event of a power failure or when the AC power lead is disconnected, the clock display will go out.
  When the AC power supply is restored, the clock display will flash on and off to indicate the time when the power failure occurred or when the AC power lead was disconnected.
  If this happens, follow the procedure below to change the clock time.

To change the clock time:

When the POWER button is set to OFF.
① Press the MEMORY/SET button.
② Perform steps 6 - 9 above.
When the POWER button is set to ON.
① Press the CLOCK button.
② Within 3 seconds, press the MEMORY/SET button.
③ Perform steps 6 - 9 above.

To see the time display:

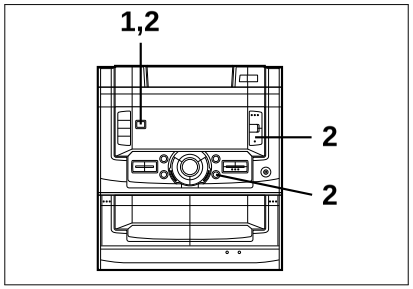
Press the CLOCK button.

- The time display will appear for about 3 seconds.

To change the time display mode:

① Perform steps 1 - 2 in the section "RESETTING THE MICROCOMPUTER", on page is a circuit diagram.
② Perform steps 1 - 9 above.

RESETTING THE MICROCOMPUTER



Reset the microcomputer under the following conditions:

- To erase all of the stored memory contents (clock and timer settings, and tuner and CD presets).
- If the display is not correct.
- If the operation is not correct.

1 Press the POWER button to turn the power off.

2 While pressing down the VOLUME ▽ button and the ▶▶/▶▶| button, hold down the POWER button for at least 1 second.

Caution:

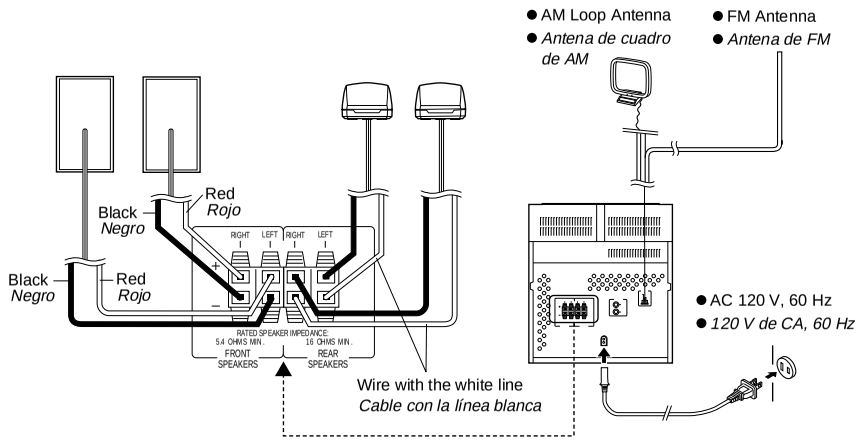
- The operation explained above will erase all data stored in memory including clock and timer settings, and tuner and CD presets.

SHARP

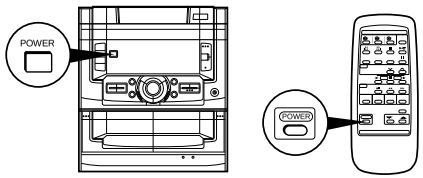
MINI COMPONENT SYSTEM — Quick-Guide / Guía rápida

CD-C422/C422C/C2800/C2800C

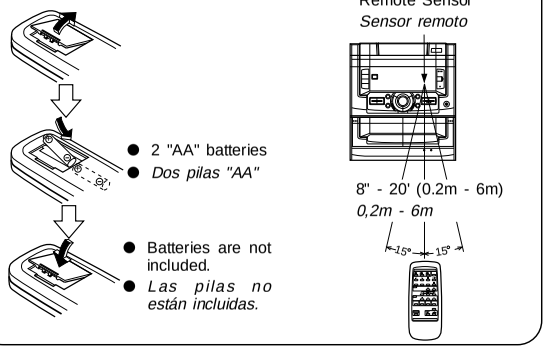
Preparation for use
Preparación para su uso



Turning the power on and off
Conexión y desconexión de la alimentación

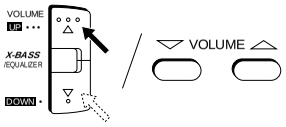


Remote control
Control remoto



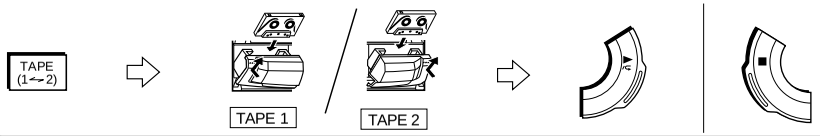
Sound control
Control del sonido

● Volume
● *Volumen*

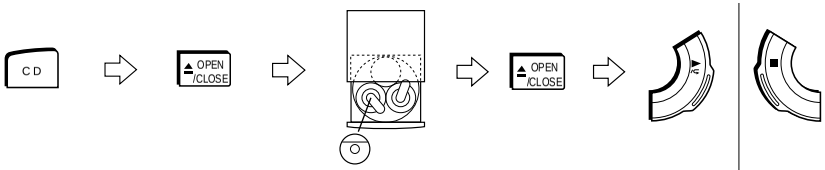


● Extra-BASS/Equalizer
● *Graves extra/Ecualizador*

Tape playback
Reproducción de cintas

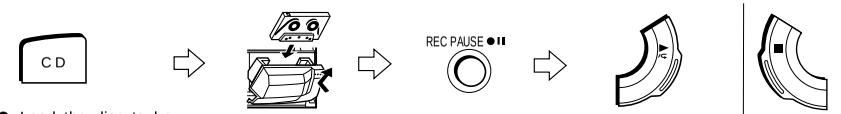


CD playback
Reproducción de discos compactos



Radio operation
Funcionamiento de la radio

Recording from CDs
Grabación de discos compactos



● Load the disc to be recorded.
● *Introduzca el disco que va a grabar.*
● CD recording starts.
● *La grabación de CD empieza.*

Precaution
Precaución

● The sound level at a given volume setting depends on a combination of speaker efficiency, location and many other factors. It is advisable to avoid exposure to high volume levels, which occur while turning the unit on with the volume control setting up high, or while continually listening at high volume levels.

● Only discs bearing the logo as shown can be played in this unit.

● *El nivel de sonido en una posición de volumen fijado depende de una combinación del rendimiento de las altavoces, la posición y muchos otros factores. Es aconsejable evitar un aumento de volumen. Esto se produce, por ejemplo, al conectar el aparato con el volumen puesto en una posición alta. Evite continuar la audición prolongada a altos niveles de sonido.*

● *En este aparato sólo pueden reproducirse los discos que tengan el logotipo mostrado.*

COMPACT disc DIGITAL AUDIO

DISASSEMBLY

Caution on Disassembly

Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep it safe and ensure excellent performance:

1. Take cassette tape and compact disc out of the unit.
2. Be sure to remove the power supply plug from the wall outlet before starting to disassemble the unit.
3. Take off nylon bands or wire holders where they need to be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
4. Take suffcient care on static electricity of integrated circuits and other circuits when servicing.

CD-C422/C422C/ C2800/C2800C

STEP	REMOVAL	PROCEDURE	FIGURE
1	Top Cabinet	1. Screw ..... (A1) x4	7-1
2	Side Panel (Left/right)	1. Screw ..... (B1) x2 2. Screw ..... (B2) x4	7-1
3	CD Player Unit/ CD Tray Cover	1. Turn on the power supply, open the disc tray, take out the CD cover, and close. (Note 1) 2. Hook ..... (C1) x3 3. Hook ..... (C2) x2 4. Socket ..... (C3) x4	7-2
4	Back Board	1. Screw ..... (D1) x4	7-2
5	Switch PWB/ Display PWB/ Main PWB	1. Screw ..... (E1) x6 2. Screw ..... (E2) x1 3. Socket ..... (E3) x4	8-1,2
6	Front Panel	1. Screw ..... (F1) x2	8-2
7	Tape Mechanism	1. Open the cassette holder. 2. Screw..... (G1) x6	8-2
8	Turntable	1. Screw ..... (H1) x1 2. Cover ..... (H2) x1	8-3
9	Disc Tray	1. Screw ..... (J1) x2 2. Guide ..... (J2) x2	8-3
10	CD Changer Mechanism	1. Screw ..... (K1) x4	8-4
11	CD Mechanism	1. Screw ..... (L1) x1	8-4

Note 1:

How to open the changer manually. (Fig. 7-3)

1. Insert the tip of fine screwdriver into the hole of CD player base, and press down the worm wheel **< A >** .
2. Then, turn fully the lock lever in the arrow direction through the hole on the loading chassis bottom in this state. After that, push forward the CD player base.

CD-C422/C422C/ C2800/C2800C

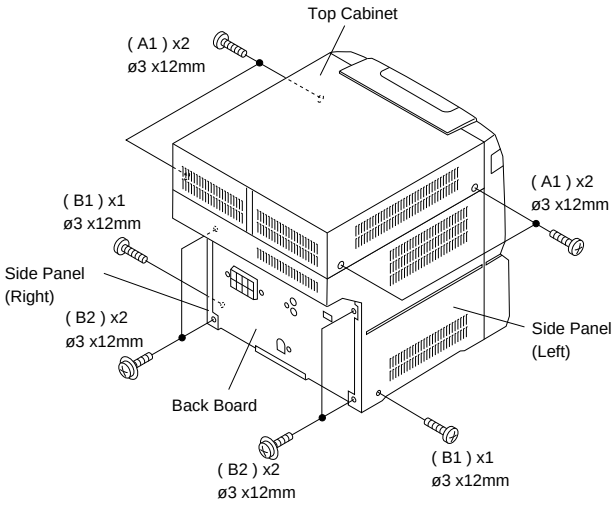


Figure 7-1

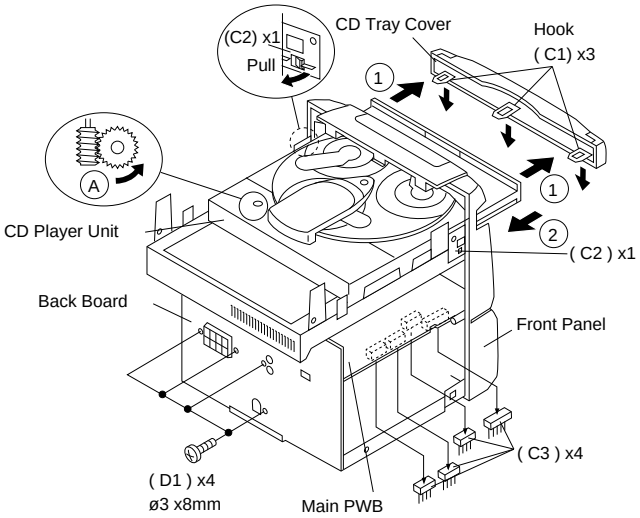


Figure 7-2

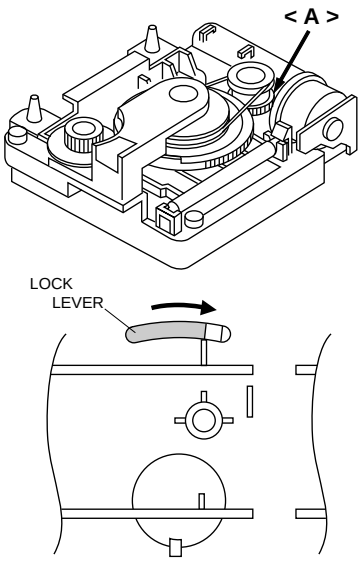


Figure 7-3

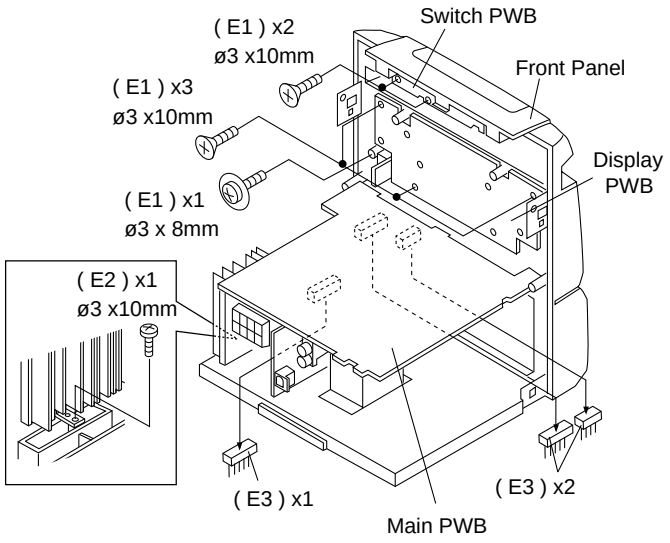


Figure 8-1

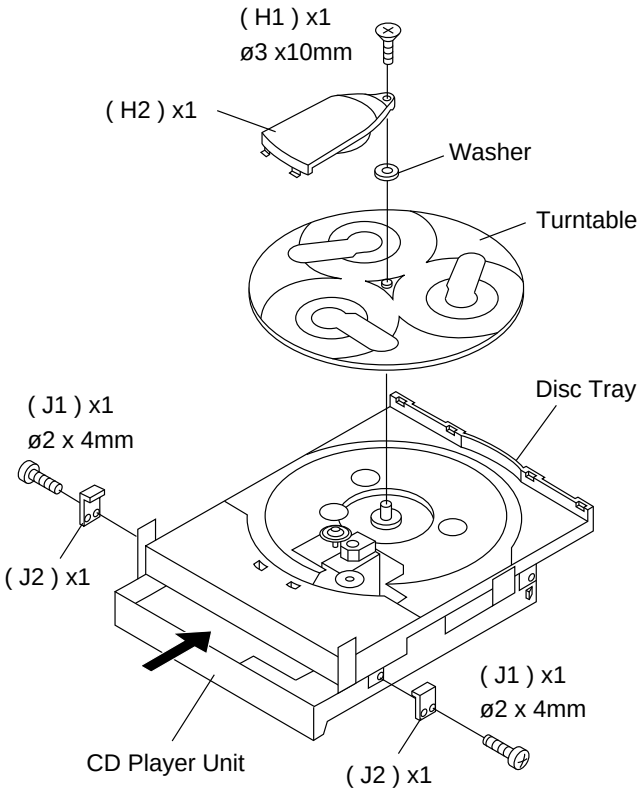


Figure 8-3

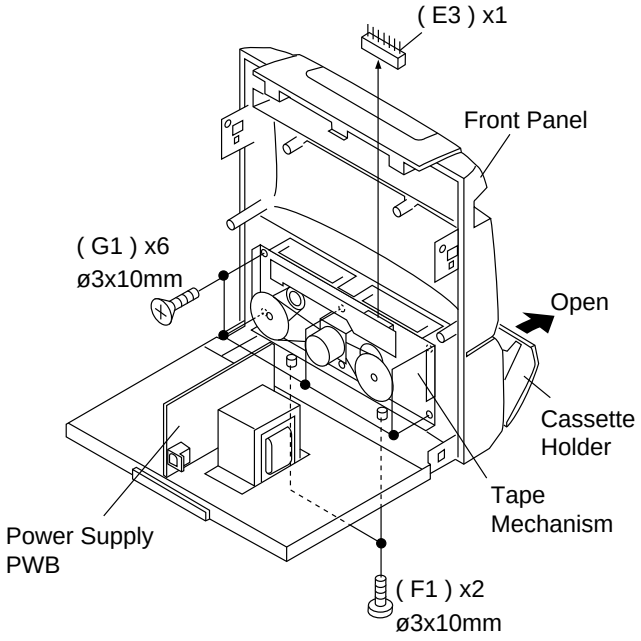
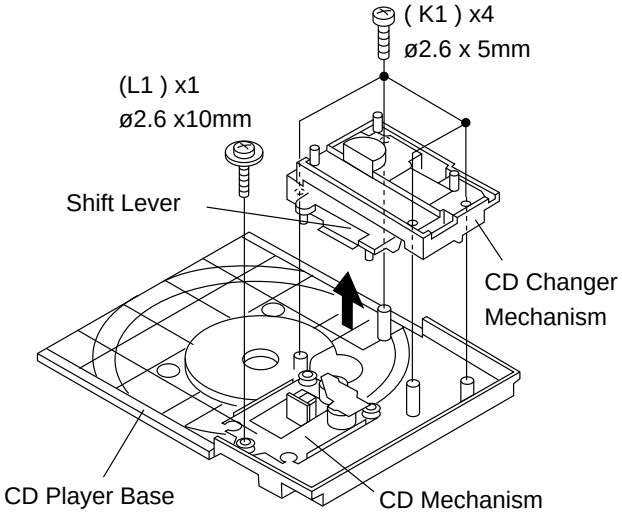


Figure 8-2



Be careful when installing the CD changer mechanism. Install the CD changer mechanism on the CD player base after the shift lever has been set in the highest position.

Figure 8-4

CP-C422

STEP	REMOVAL	PROCEDURE	FIGURE
1	Front Speaker	1. Net ..... (A1) x1 2. Duct Panel ..... (A2) x1 3. Screw ..... (A3) x4	9-1

CP-C422

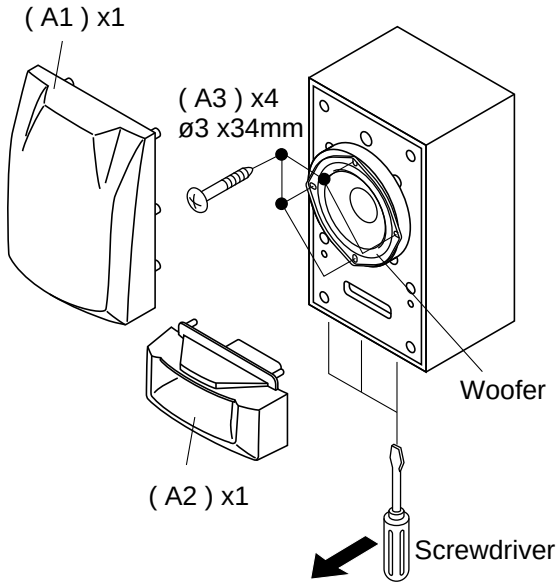


Figure 9-1

CP-C2800

STEP	REMOVAL	PROCEDURE	FIGURE
1	Front Speaker	1. Net ..... (A1) x1 2. Duct Panel ..... (A2) x1 3. Screw ..... (A3) x4 4. Screw ..... (A4) x4	9-2

CP-C2800

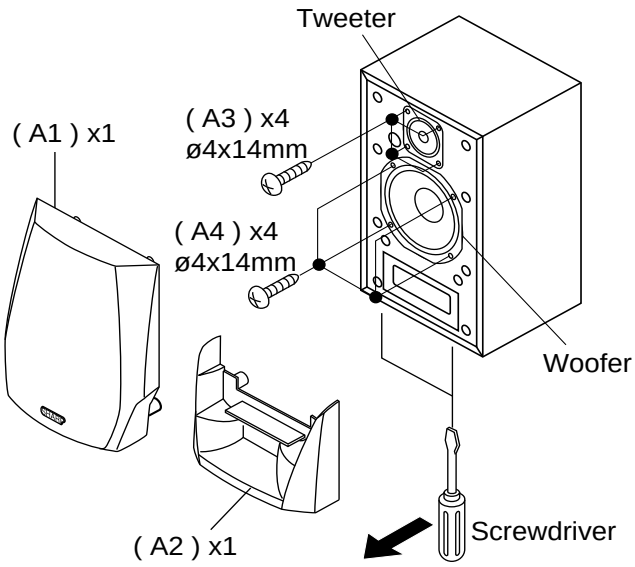


Figure 9-2

REMOVING AND REINSTALLING THE MAIN PARTS

CD MECHANISM SECTION

Perform steps 1, 2, 3, 13 and 14 of the disassembly method to remove the CD mechanism.

How to remove the loading motor (See Fig. 10-1)

1. Remove the screws (A1) x 2 pcs., to remove the loading motor.

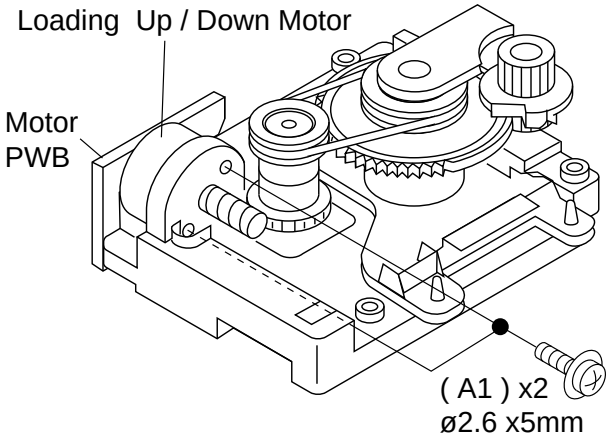


Figure 10-1

How to remove the pickup (See Fig. 10-2)

1. Remove the screws (B1) x 2 pcs., to remove the shaft (B2).
2. Remove the stop washer (B3) x 1 pc., to remove the gear (B4).
3. Remove the pickup.

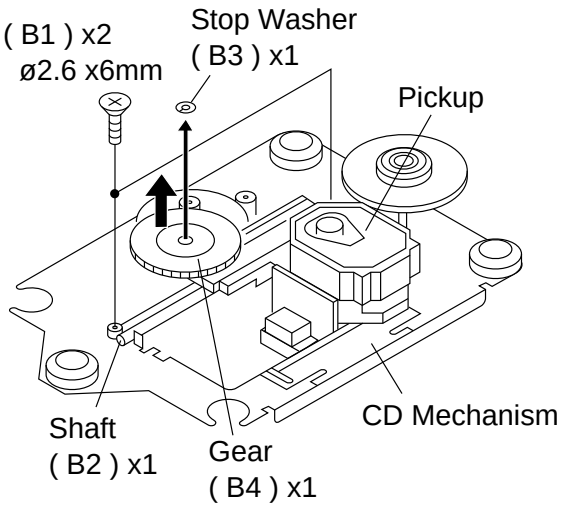


Figure 10-2

ADJUSTMENT

MECHANISM SECTION

• Driving Force Check

Torque Meter	Specified Value
Play: TW-2412	Tape 1: Over 80 g Tape 2: Over 80 g

• Torque Check

Torque Meter	Specified Value	
	Tape 1	Tape 2
Play: TW-2111	30 to 60 g. cm	30 to 60 g.cm
Fast forward: TW-2231	—	60 to 120 g.cm
Rewind: TW-2231	—	60 to 120 g.cm

• Tape Speed

	Test Tape	Adjusting Point	Specified Value	Instrument Connection
Normal speed	MTT-111	Volume in motor. (MM1)	3,000 ± 30 Hz	Speaker terminal (Load resistance: 8 ohms)

TUNER SECTION

fL: Low-range frequency
fH: High-renge frequency

• AM IF/RF

Signal generator: 400 Hz, 30%, AM modulated

Test Stage	Frequency	Frequency Display	Setting/ Adjusting Parts	Instrument Connection
IF	450 kHz	1,720 kHz	T381	*1
Band Coverage	—	530 kHz	(fL): T333 1.1 ± 0.1 V	*2
Tracking	990 kHz	990 kHz	(fL): T331	*1

*1. Input: Antenna, Output: TP302
*2. Input: Antenna, Output: TP301

• FM RF

Signal generator: 1 kHz, 75 kHz dev., FM modulated

Test Stage	Frequency	Frequency Display	Serring/ Adjusting Point	Instrument Connection
Band Coverage	—	87.50 MHz	T301(fL): 1.3 V ± 50 mV	*1
RF	98.00 MHz (10-30 dB)	98.00 MHz	L312	*2

*1. Input: Antenna, Output: TP301
*2. Input: Antenna, Output: Speaker terminal

• Detection

Signal generator: 10.7 MHz, FM sweep generator

Test Stage	Frequency	Frequency Display	Adjusting Parts	Instrument Connection
Detection	10.7 MHz	98.00 MHz	T382	Input: Pin 1 of IC303 Output: TP302
IF	10.7 MHz	98.00 MHz	T302(Turn the core of transformer T381 fully counter-clookwise.)	Input: Pin 1 of IC301 Output: TP302

• VCO Frequency

Frequency	Frequency Display	Adjusting Parts	Instrument Connection
98.00 MHz (60 dB)	98.00 MHz	VR381*	Pin 13, Pin 21 and ground of IC303

* Adjust for 76 kHz ± 200 Hz.

Notes:

After preparing the test circuit shown in Fig 11-2, connect the Pin 13 , Pin 21 and ground of the IC303 with test circuit, and measure the Value.
At this time, apply a standard unmodulated signal input and adjust the VCO.

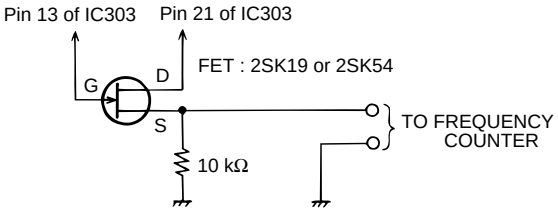


Figure 11-2

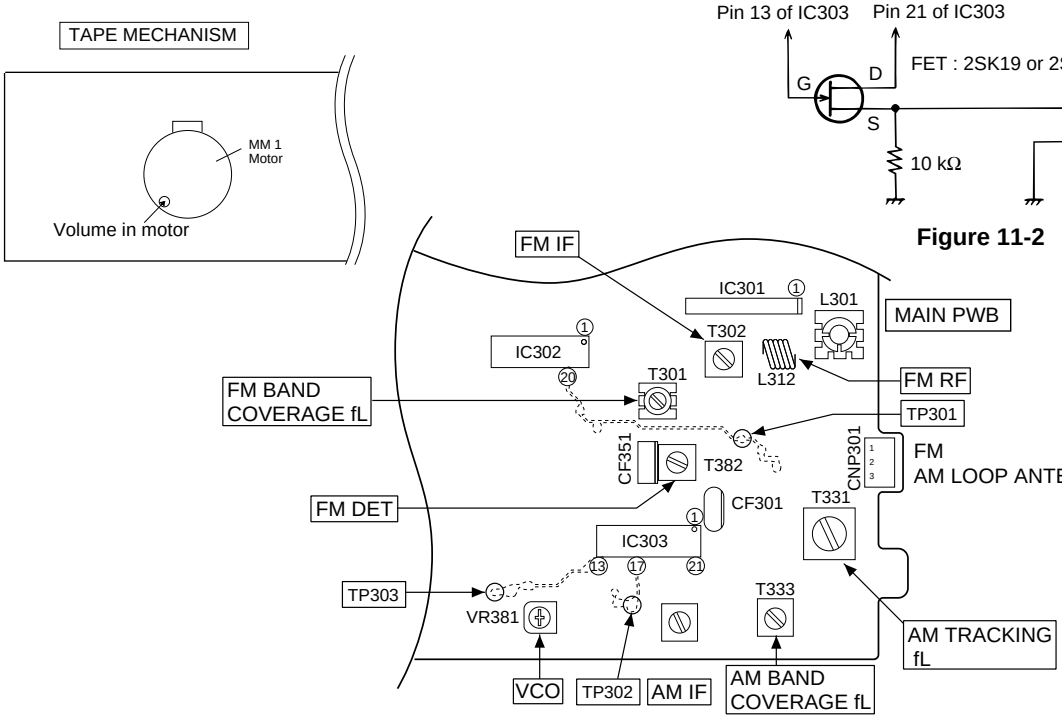


Figure 11-1 ADJUSTMENT POINTS

TEST MODE

• Setting the test mode

Any one of test mode can be set by pressing several keys as follows.

<REC. PAUSE> + <DISC. SKIP> + <POWER> TEST: CD operation test

• TEST mode

Function — CD test mode

Setting of TEST mode
Indication of CD TST mode (Fig. 12-1)
OPEN/CLOSE operation is manual operation.
The pickup can be moved by using the (▶▶) or (◀◀) key.
IL is not performed.

<MEMORY> LASER ON — <MEMORY> Tracking on the spot. SERVO OFF PLAY — <MEMORY> Tracking on the spot. SERVO ON PLAY — <STOP> STOP

<PLAY> key input — TOC. IL is performed, and the ordinary PLAY is performed. If the following key is pressed during PLAY, it is possible to specify directly any Track No.
<Disc Number 1> key: Track 4
<Disc Number 2> key: Track 9
<Disc Number 3> key: Track 15
— Press <STOP> key. — Stop

Note:

Only in STOP state it is possible to slide the pickup with the (▶▶) or (◀◀) key.

VOL. --- Last memory
BAL. --- CENTER
R.GEQ. --- FLAT
X-BAS --- OFF

Canceling method - POWER OFF

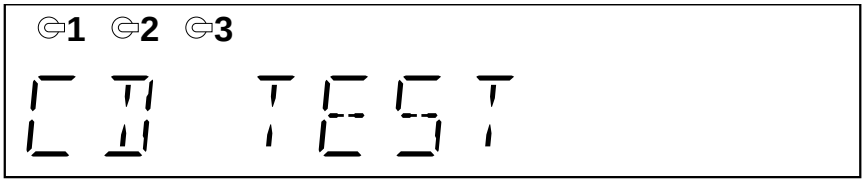


Figure 12-1

CD SECTION

Since this CD system incorporates the following automatic adjustment function, when the pickup is replaced, it is not necessary to readjust it.
Since this CD unit does not need adjustment, the combination of PWB and laser pickup unit is not restricted.

• Automatic adjustment item

1. Focus offset (Fig. 12-2)
2. Tracking offset (Fig. 12-3)
3. E/F balance (tracking error balance) (Fig. 12-4)
4. RF level AGC function (HF level: constant)
5. RF level automatic follow-up of the tracking gain

This automatic adjustment is performed each time a disc is changed. Therefore, each disc is played back using the optimal settings.

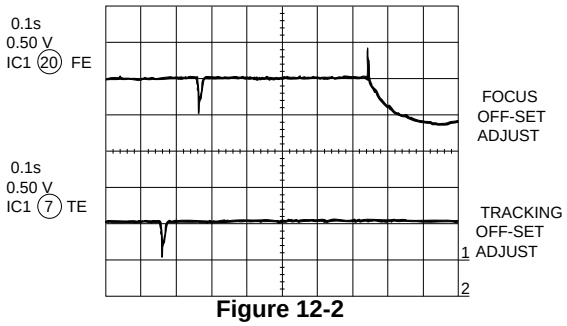


Figure 12-2

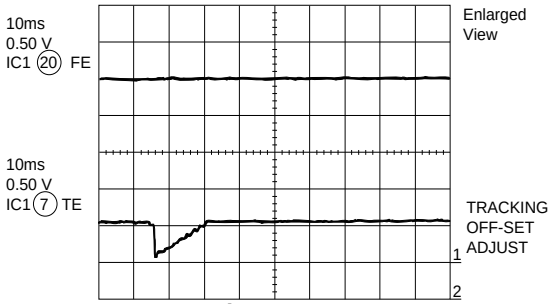


Figure 12-3

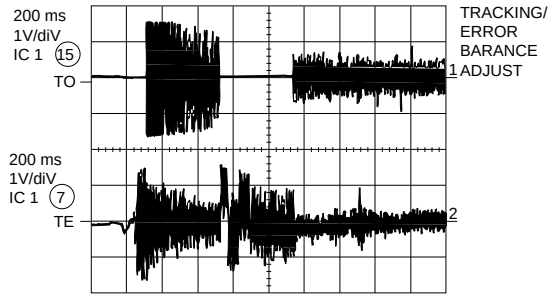


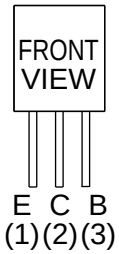
Figure 12-4

NOTES ON SCHEMATIC DIAGRAM

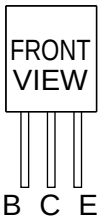
- Resistor:
  To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with “Fusible” is a fuse type.
- Capacitor:
  To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression “capacitance/withstand voltage” is used.
  (CH), (TH), (RH), (UJ): Temperature compensation
  (ML): Mylar type
  (P.P.): Polypropylene type
- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.
- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.
  1. In the tuner section,
     ( ) indicates AM
     < > indicates FM stereo
  2. In the main section, a tape is being played back.
  3. In the deck section, a tape is being played back.
     ( ) indicates the record state.
  4. In the power section, a tape is being played back.
  5. In the CD section, the CD is stopped.
- Parts marked with “ ⚠ ” (⊏ ═ ═ ═ ⊐) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW1	OPEN/CLOSE	ON—OFF
SW2	MECHA UP	ON—OFF
SW3	DISC NUMBER	ON—OFF
SW4	PICKUP IN	ON—OFF
SW701	RANDOM/DEMO	ON—OFF
SW702	VOLUME DOWN	ON—OFF
SW703	X-BASS/EQUALIZER	ON—OFF
SW704	VOLUME UP	ON—OFF
SW705	REC/PAUSE	ON—OFF
SW706	FF	ON—OFF
SW707	STOP	ON—OFF
SW708	PLAY	ON—OFF
SW709	REW	ON—OFF
SW710	TUNING UP	ON—OFF
SW711	TUNING DOWN	ON—OFF
SW712	POWER	ON—OFF
SW713	CLOCK	ON—OFF
SW714	TIMER/SLEEP	ON—OFF
SW715	MEMORY	ON—OFF

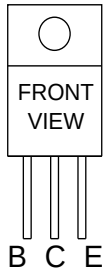
REF. NO	DESCRIPTION	POSITION
SW716	CD	ON—OFF
SW717	TUNER/BAND	ON—OFF
SW718	TAPE	ON—OFF
SW719	VIDEO/AUX	ON—OFF
SW723	DISC SKIP	ON—OFF
SW724	OPEN/CLOSE	ON—OFF
SWM 3	FOOL PROOF	ON—OFF
SWM 4	F.A.S.	ON—OFF
SWM 5	CAM	ON—OFF



KTA1266 GR
KTA1271 Y
KRC102 M
KTC3194 Y
KRA102 M
KRA109 M
KTC3200 GR
KTC3199 GR
KRC104 M
KTC3203 Y
KRC107 M



KTA1273 Y



2SD2012 Y

Figure 13 TYPES OF TRANSISTOR

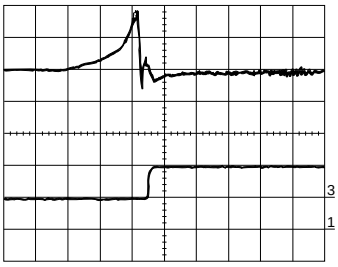
WAVEFORMS OF CD CIRCUIT

STOP → PLAY

FOCUS — SERCH

❶ 5ms
0.50 V
IC1 (20) F.E

❷ 5ms
5.0 V
IC1 (54) DRF

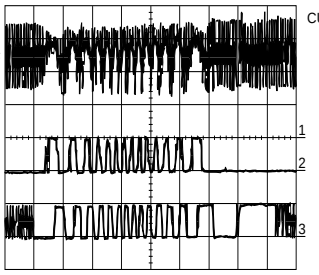


❸ 0.5ms
1.00 V
IC (41) (42) HF

❹ 0.5ms
5.0 V
IC (37) HFL

❺ 0.5ms
5.0 V
IC (36) TES

CUE

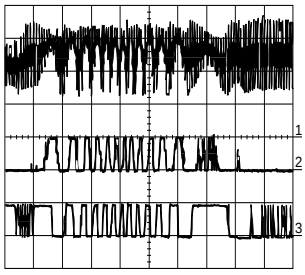


❸ 0.5ms
1.00 V
IC (41) (42) HF

❹ 0.5ms
5.0 V
IC (37) HFL

❺ 0.5ms
5.0 V
IC (41) (42) TES

REVIEW



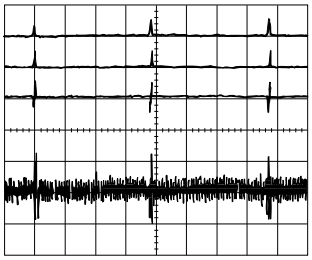
❻ 50ms
10.0 V
IC1 (33) JP+

❼ 50ms
10.0 V
IC1 (32) JP-

❽ 50ms
0.50 V
IC1 (14) JP

❾ 50ms
1.00 V
IC1 (7) TE

CUE

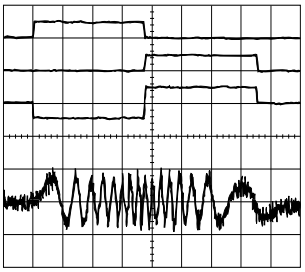


❻ 0.5ms
10.0 V
IC1 (33) JP+

❼ 0.5ms
10.0 V
IC1 (32) JP-

❽ 0.5ms
0.50 V
IC1 (14) JP

❾ 0.5ms
1.00 V
IC1 (7) TE



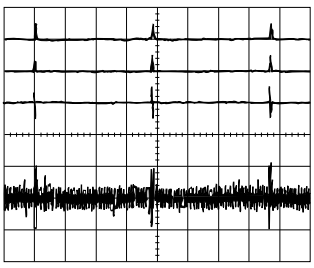
❻ 50ms
10.0 V
IC1 (33) JP+

❼ 50ms
10.0 V
IC1 (32) JP-

❽ 50ms
0.50 V
IC1 (14) JP

❾ 50ms
1.00 V
IC1 (7) TE

REVIEW

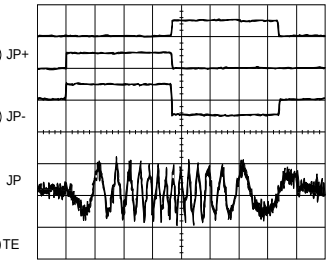


❻ 0.5ms
10.0 V
IC1 (33) JP+

❼ 0.5ms
10.0 V
IC1 (32) JP-

❽ 0.5ms
0.50 V
IC1 (14) JP

❾ 0.5ms
1.00 V
IC1 (7) TE

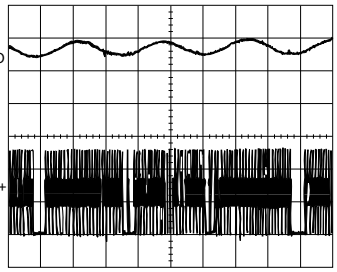


PLAY

NORMAL DISC
TN0=01

❿ 20ms
1.00 V
IC1 (27) SPO

⓫ 20ms
2.00 V
IC1 (13) CLV+

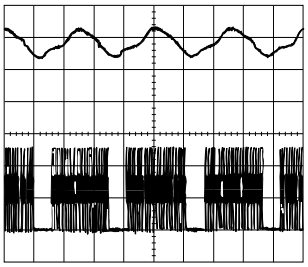


PLAY

TCD-712 (140mm)
TN0=01

❿ 50ms
1.00 V
IC1 (27) SPO

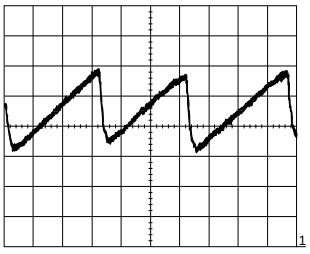
⓫ 50ms
2.00 V
IC1 (13) CLV+



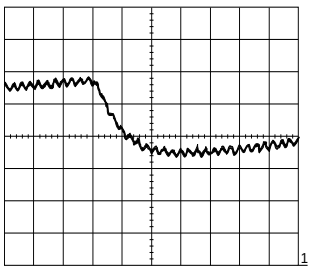
PLAY

TCD-712

⓬ 5s
100mV
IC1 (29) SLD



⓬ 0.5s
100mV
IC1 (29) SLD



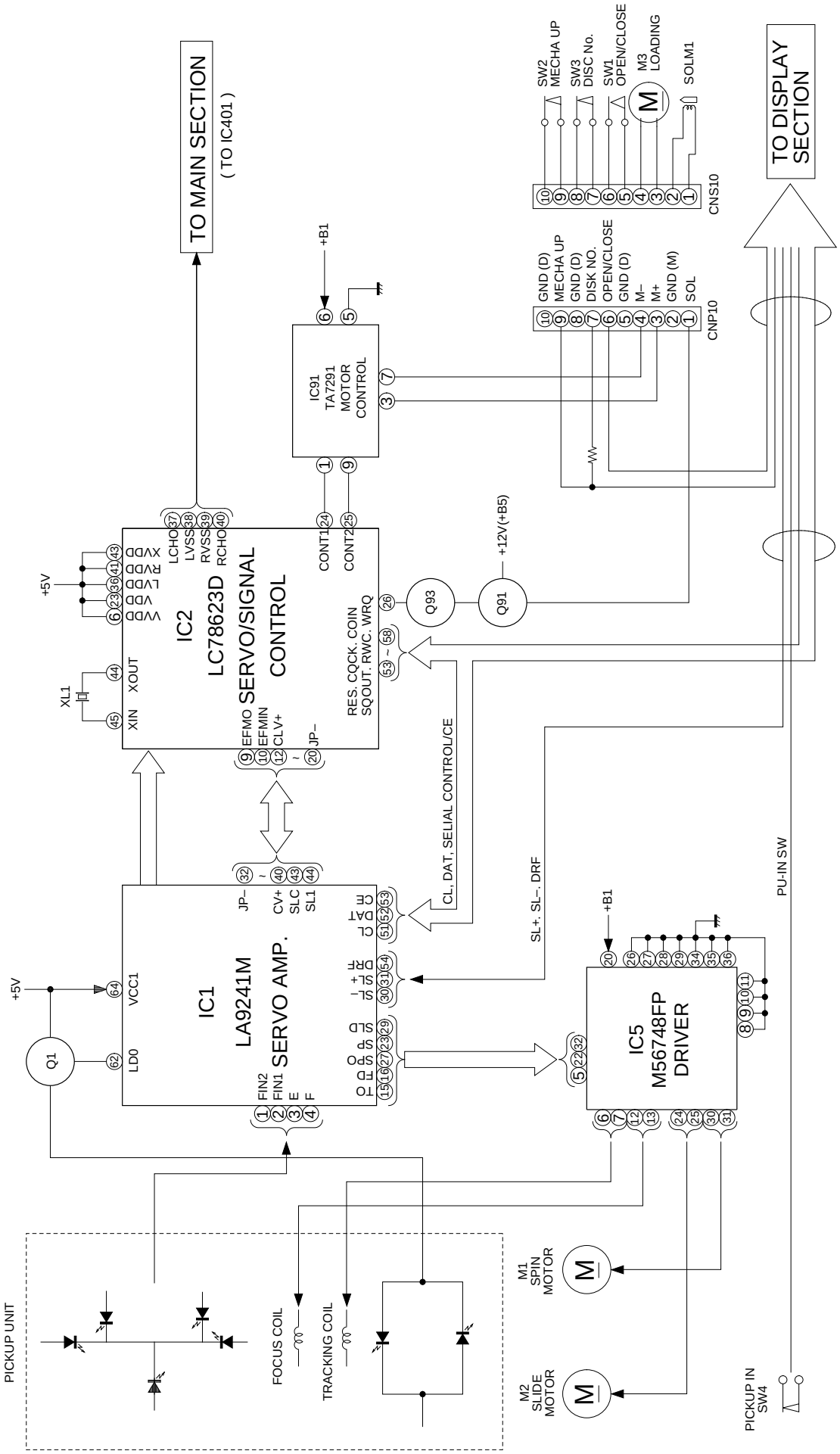


Figure 15 BLOCK DIAGRAM (1/3)

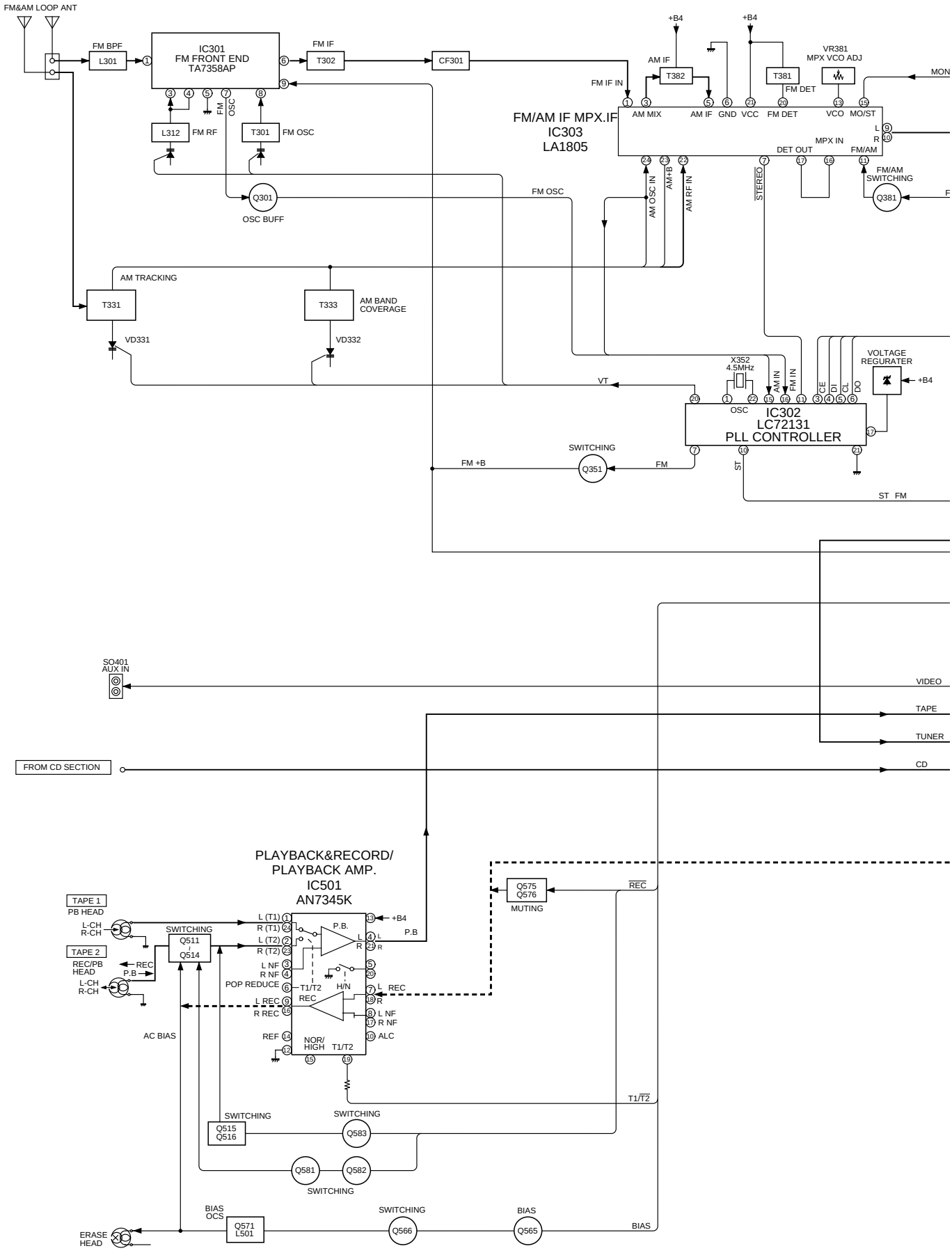


Figure 16 BLOCK DIAGRAM (2/3)

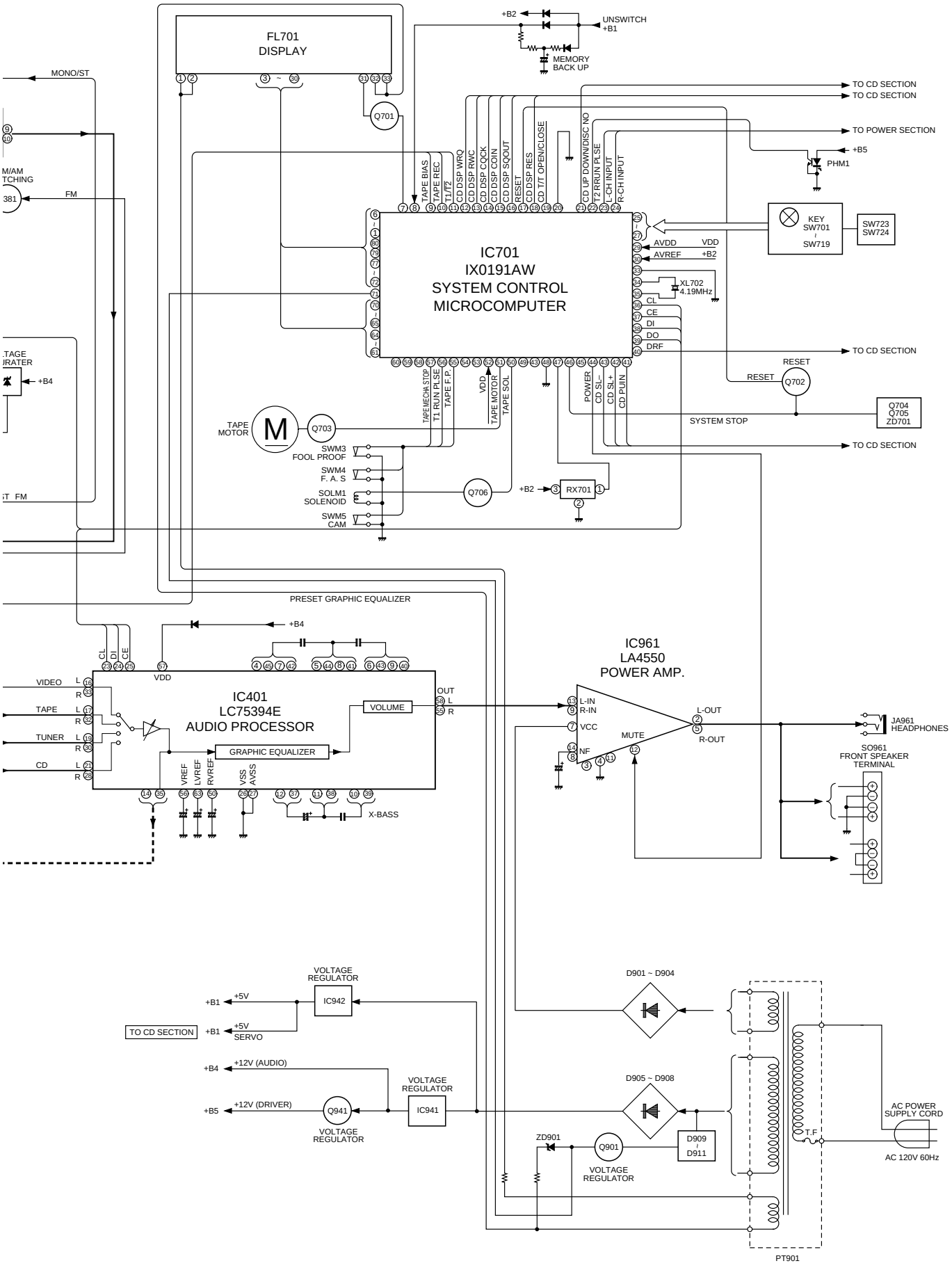
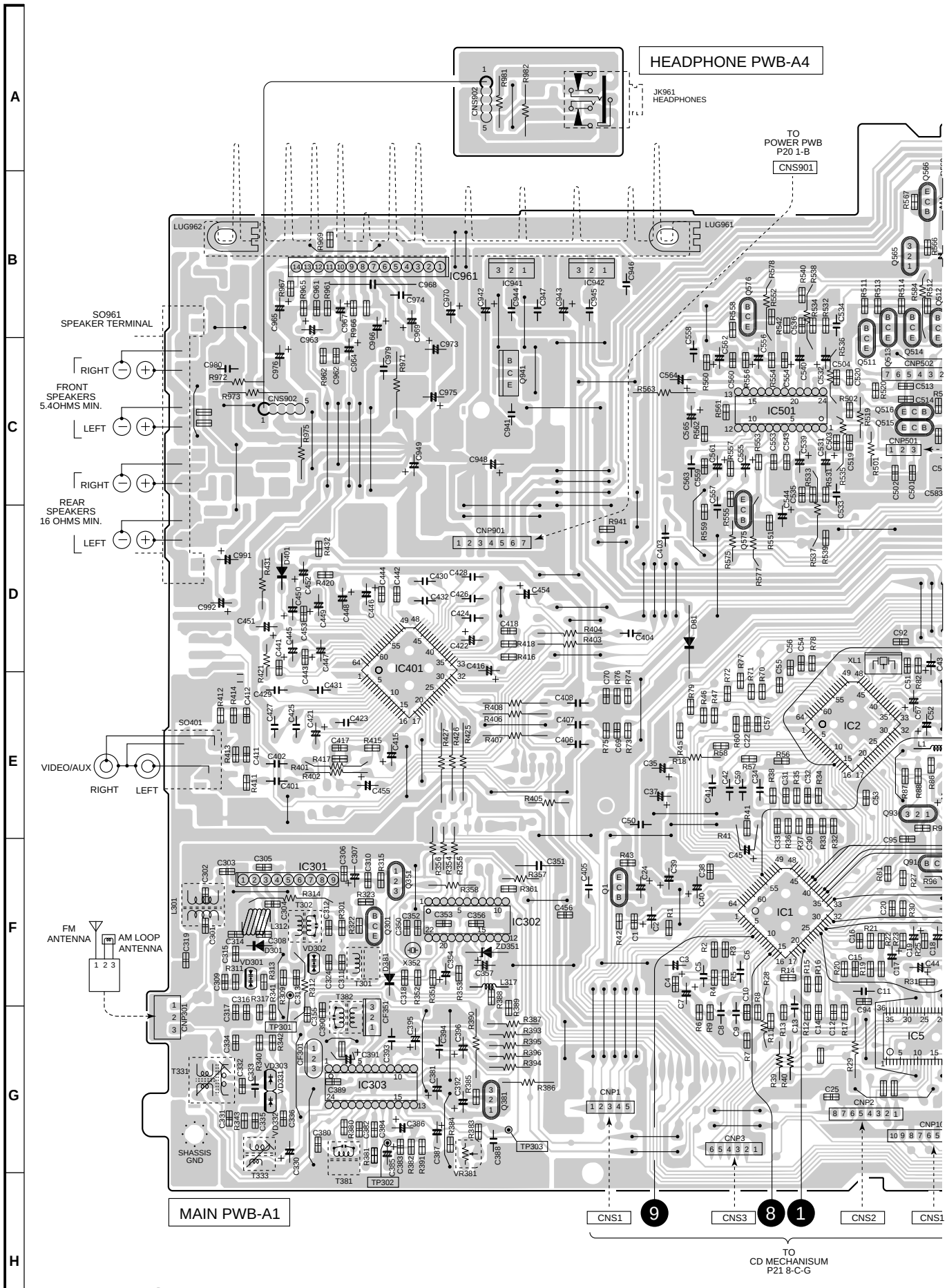
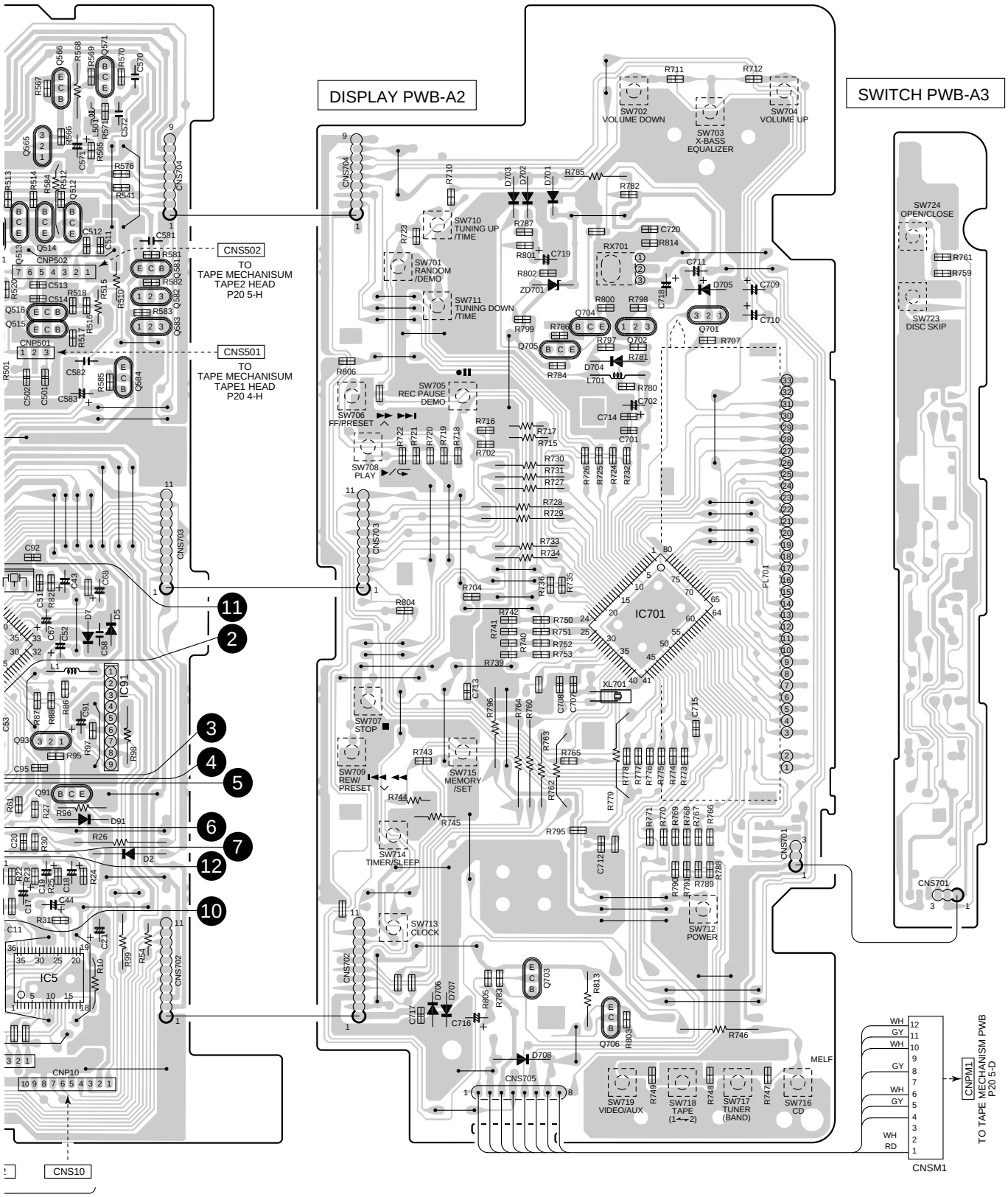


Figure 17 BLOCK DIAGRAM (3/3)



• The numbers ❶ to ⓬ are waveform numbers shown in page 14.

Figure 18 WIRING SIDE OF P.W.BOARD (1/4)



7	8	9	10	11	12

Figure 19 WIRING SIDE OF P.W.BOARD (2/4)

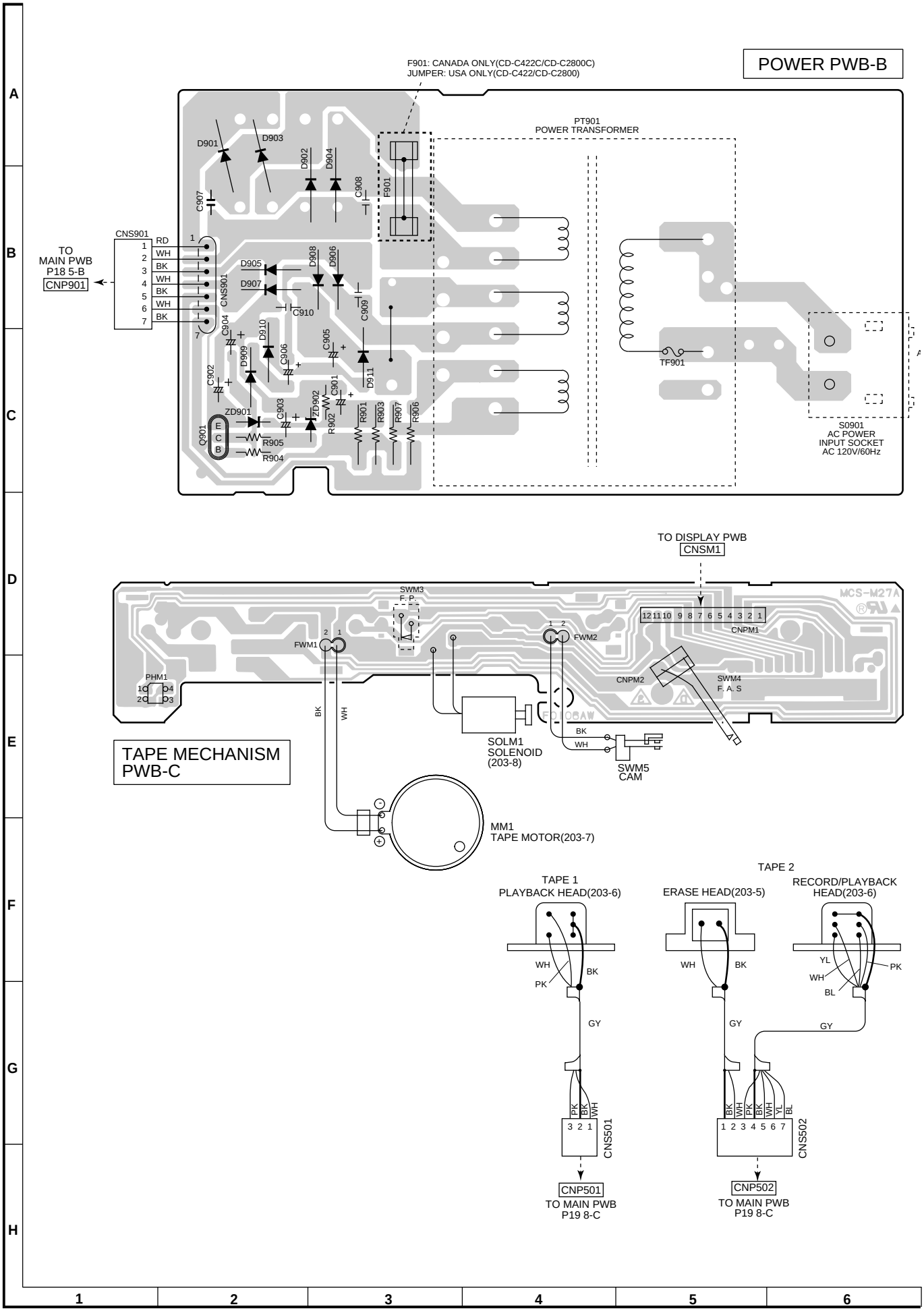
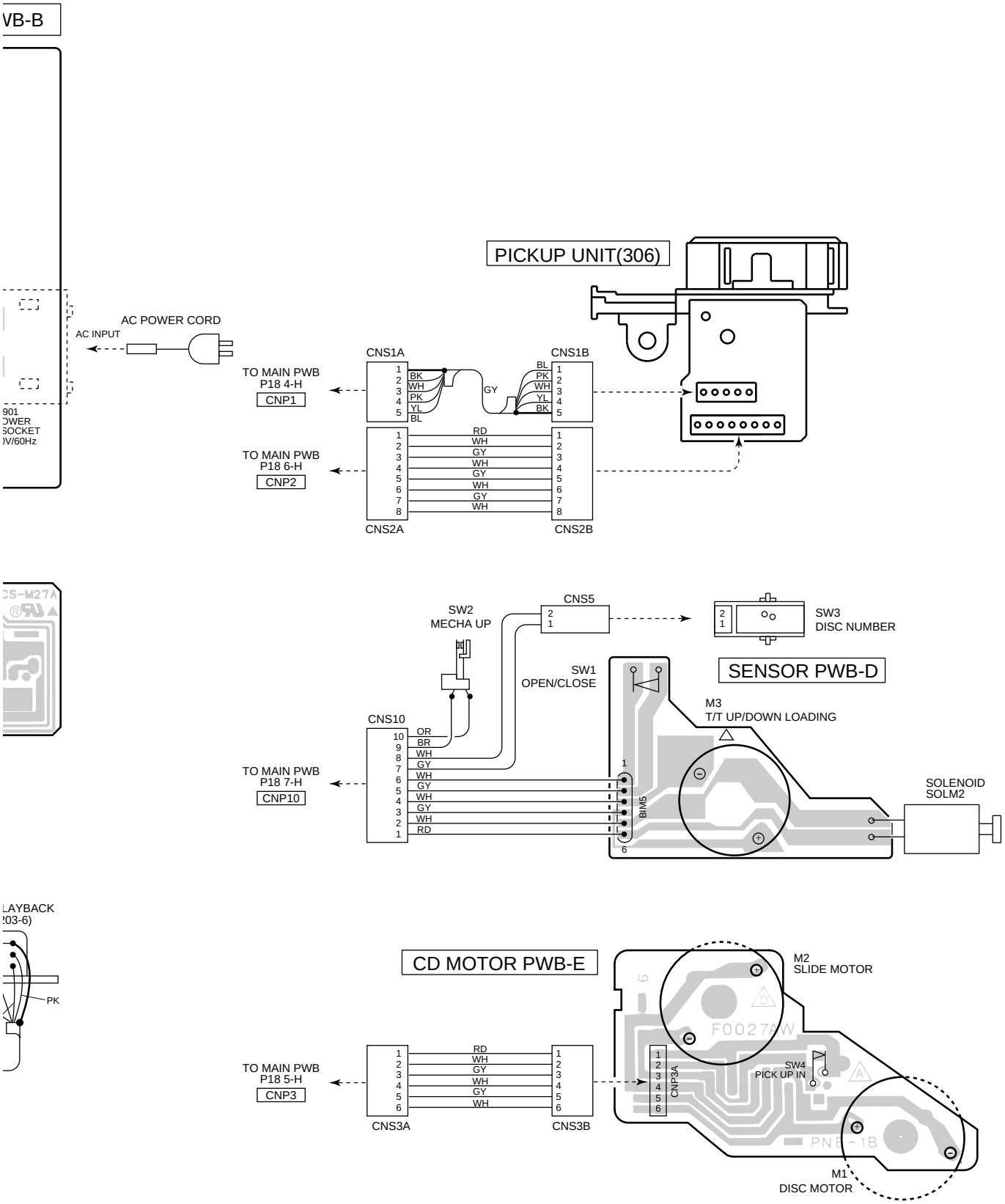
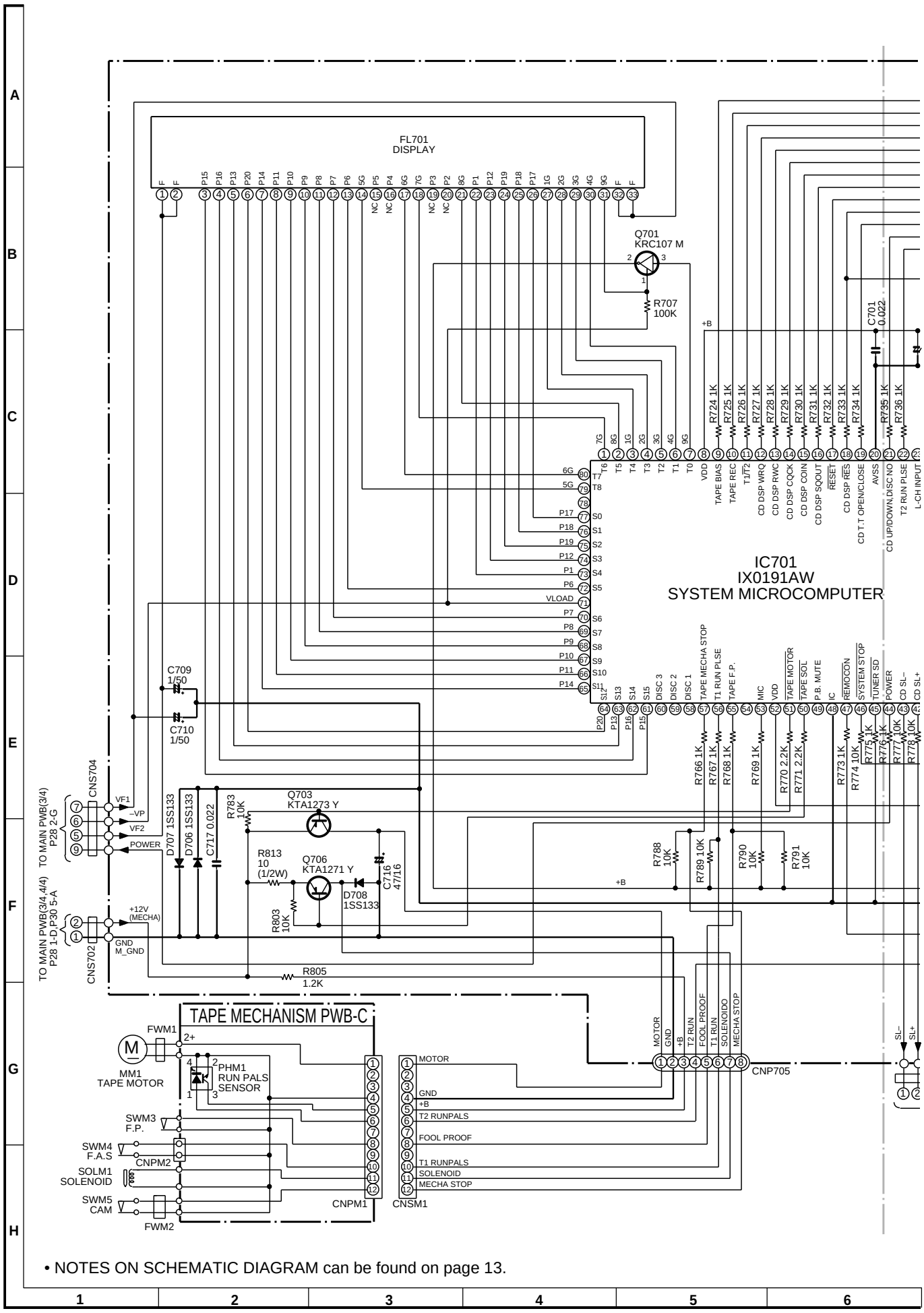


Figure 20 WIRING SIDE OF P.W.BOARD (3/4)



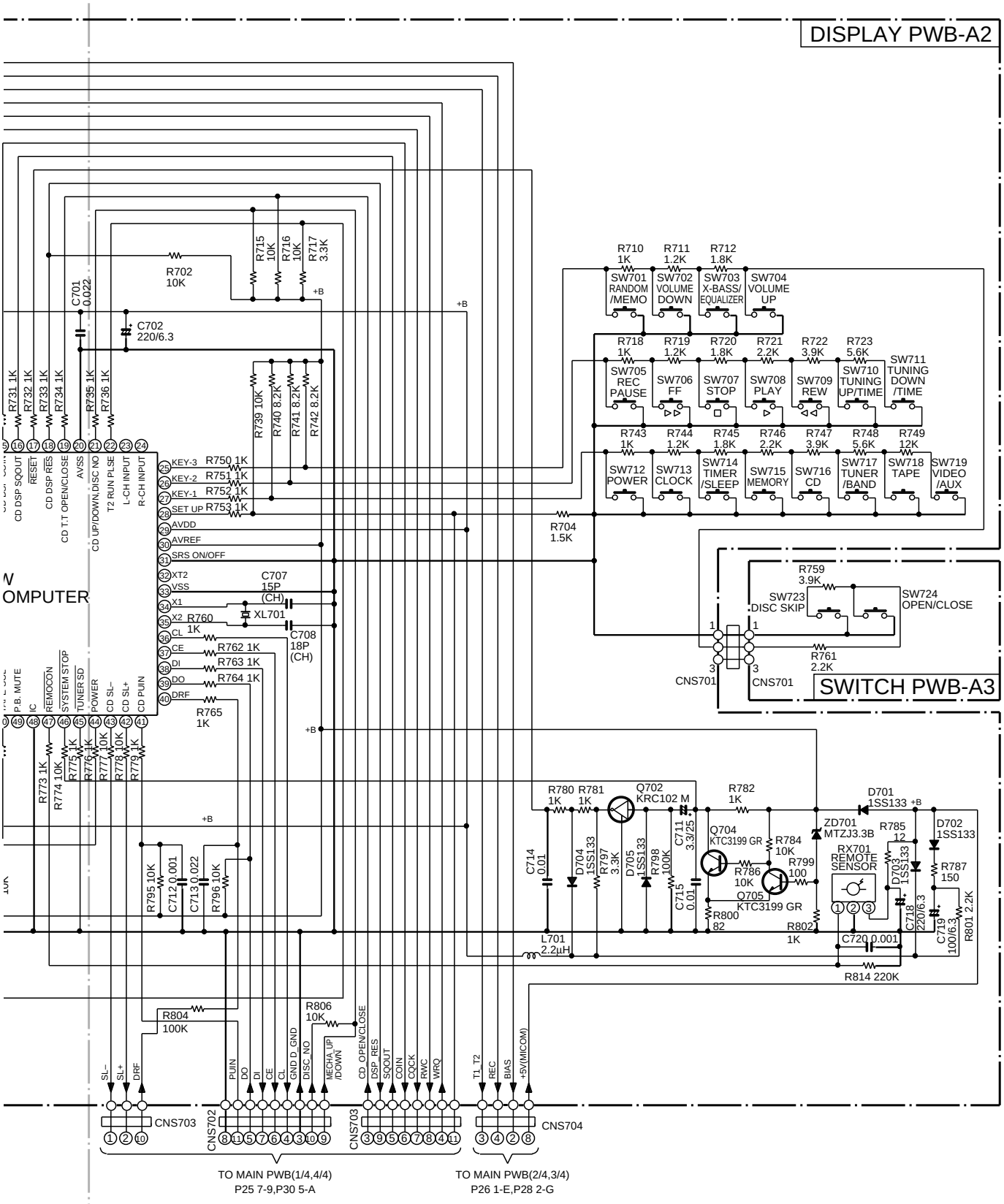
7	8	9	10	11	12

Figure 21 WIRING SIDE OF P.W.BOARD (4/4)



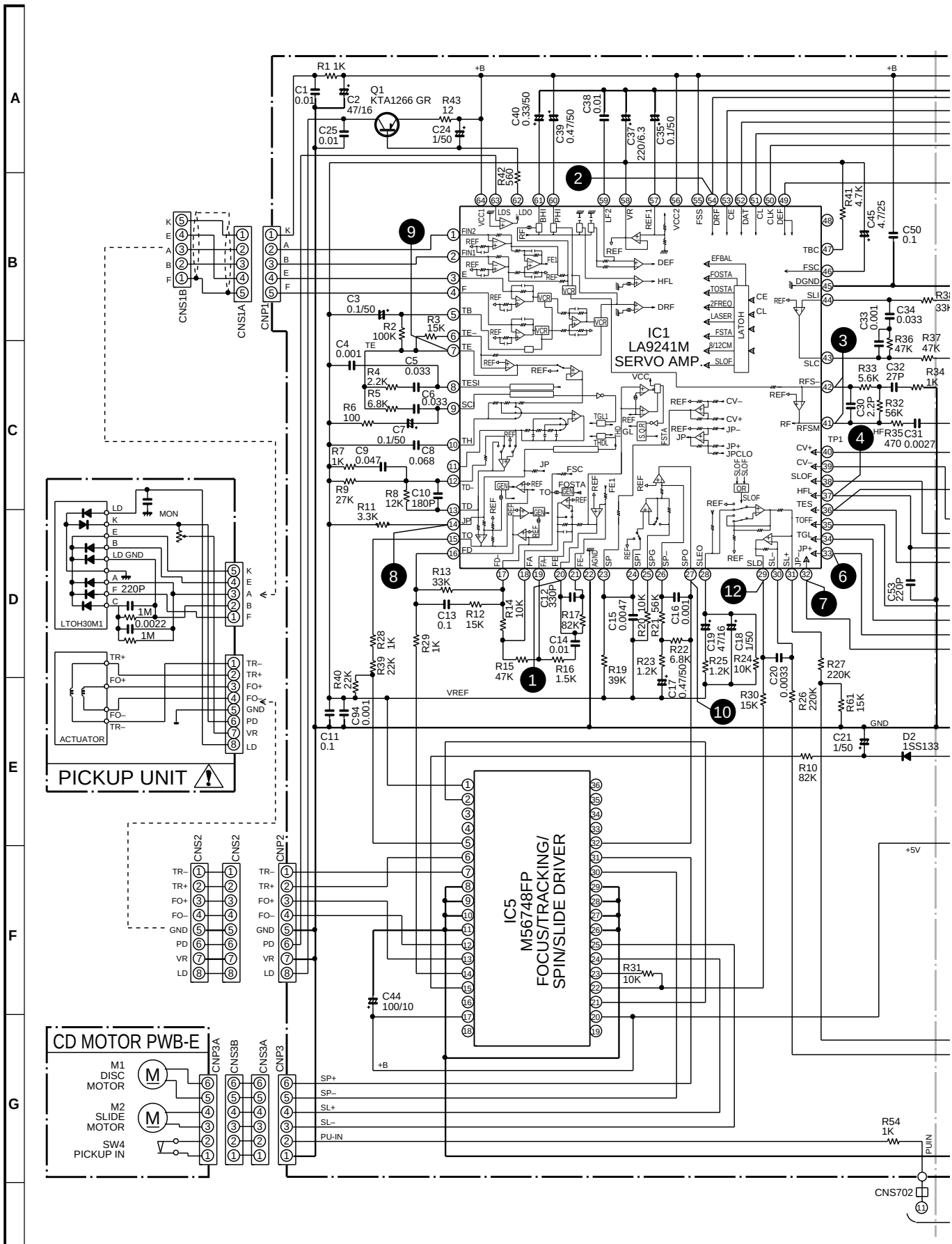
• NOTES ON SCHEMATIC DIAGRAM can be found on page 13.

Figure 22 SCHEMATIC DIAGRAM (1/10)



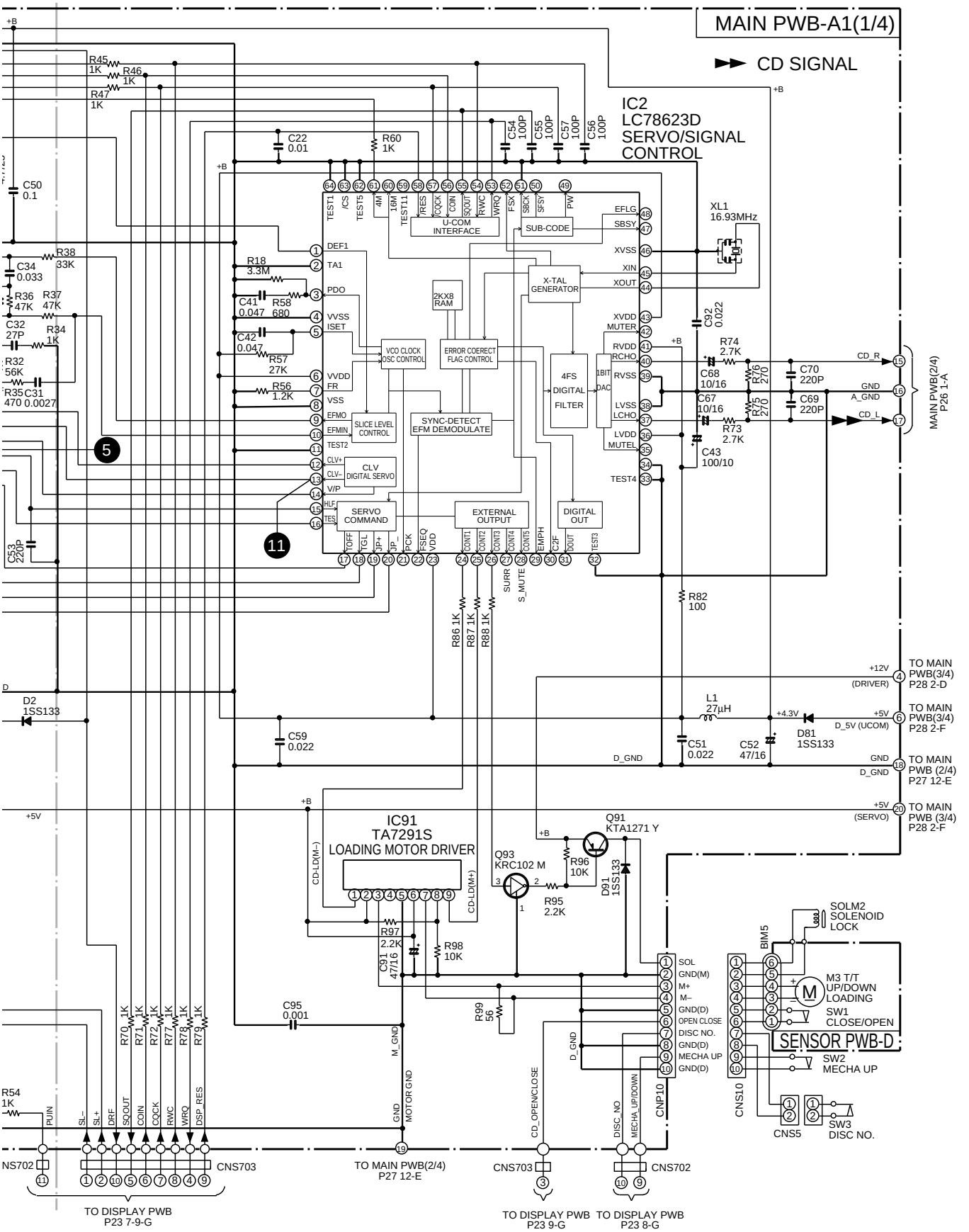
7	8	9	10	11	12

Figure 23 SCHEMATIC DIAGRAM (2/10)



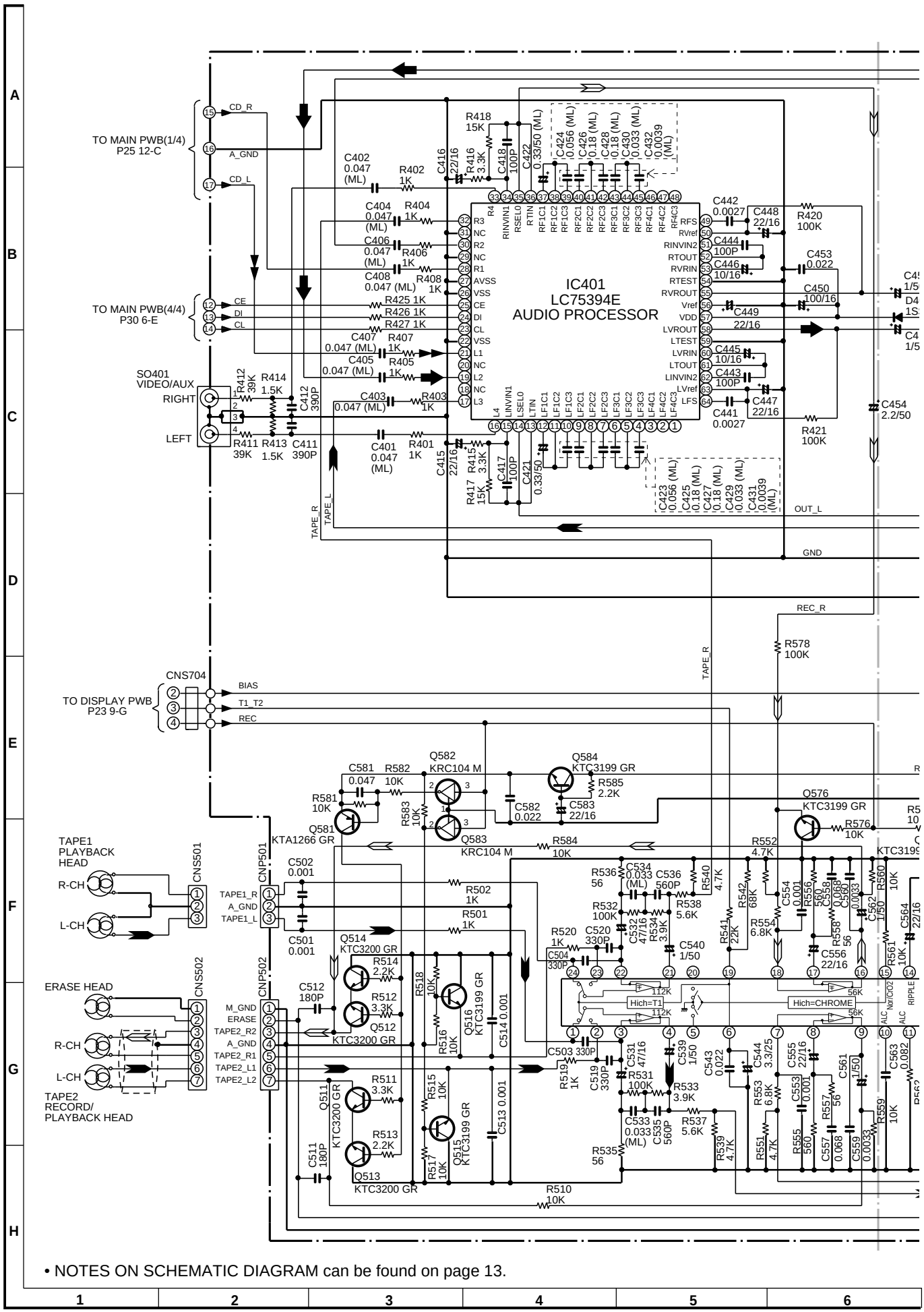
- The numbers ❶ to ⓬ are waveform numbers shown in page 14.
- NOTES ON SCHEMATIC DIAGRAM can be found on page 13.

Figure 24 SCHEMATIC DIAGRAM (3/10)



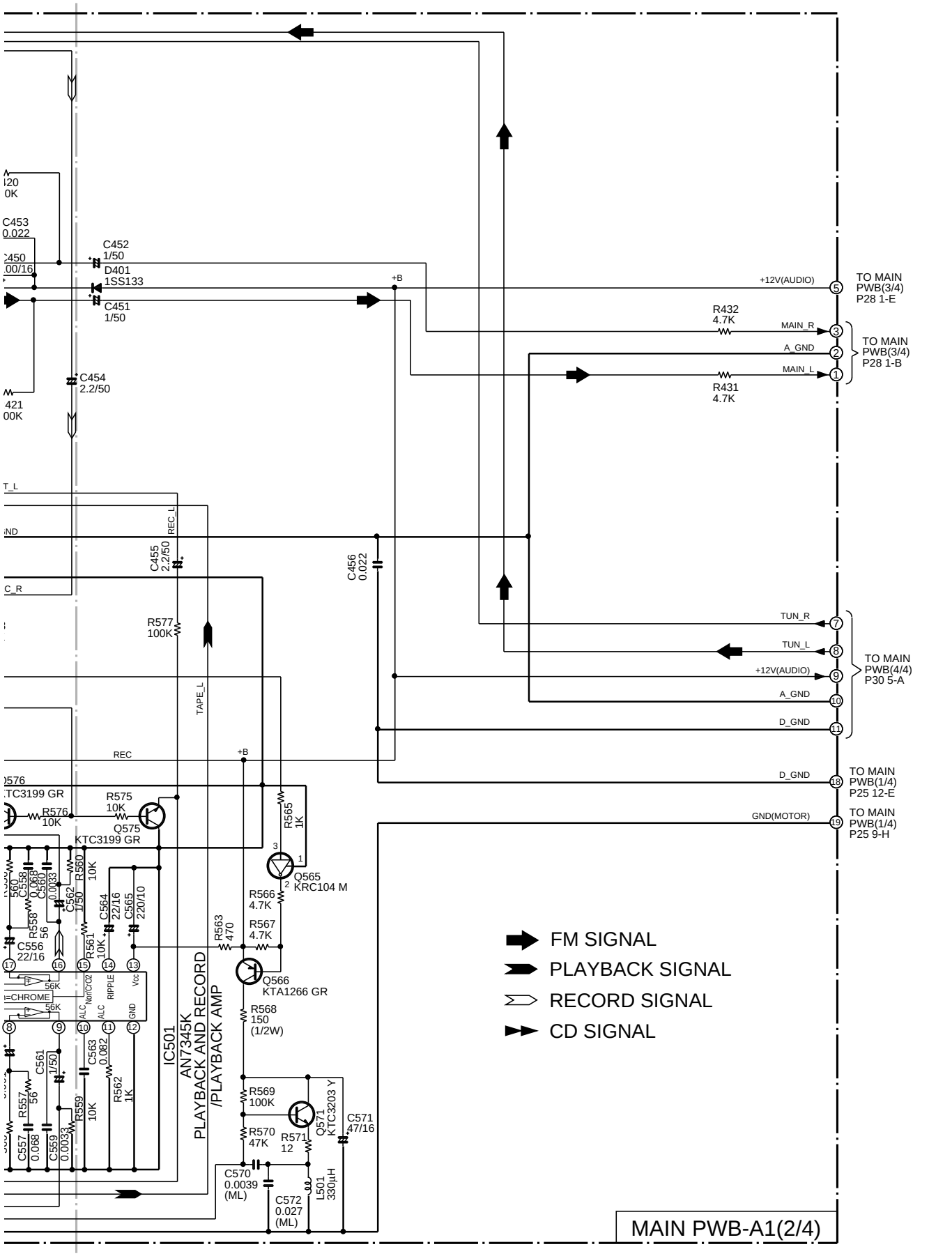
7	8	9	10	11	12

Figure 25 SCHEMATIC DIAGRAM (4/10)



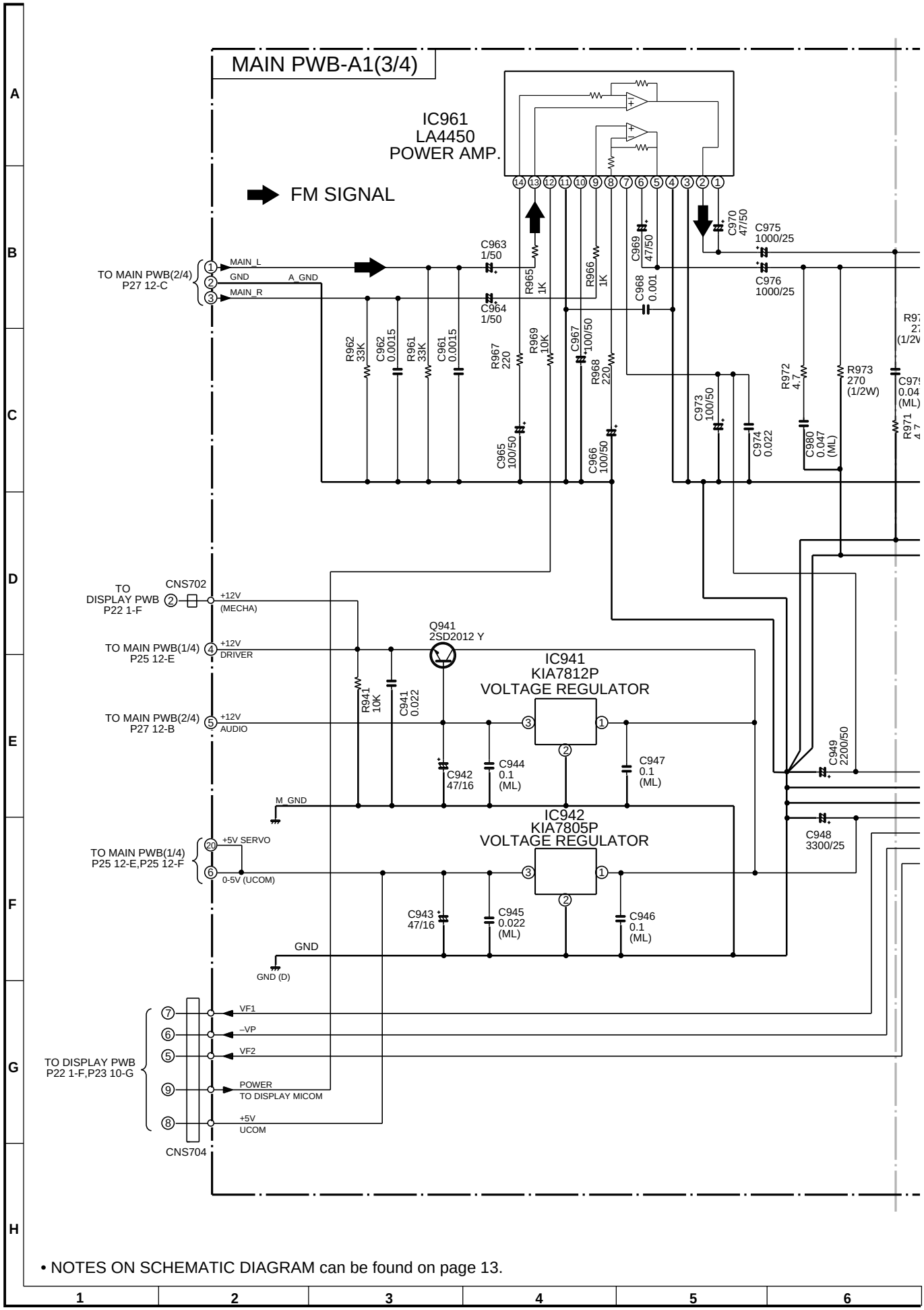
• NOTES ON SCHEMATIC DIAGRAM can be found on page 13.

Figure 26 SCHEMATIC DIAGRAM (5/10)



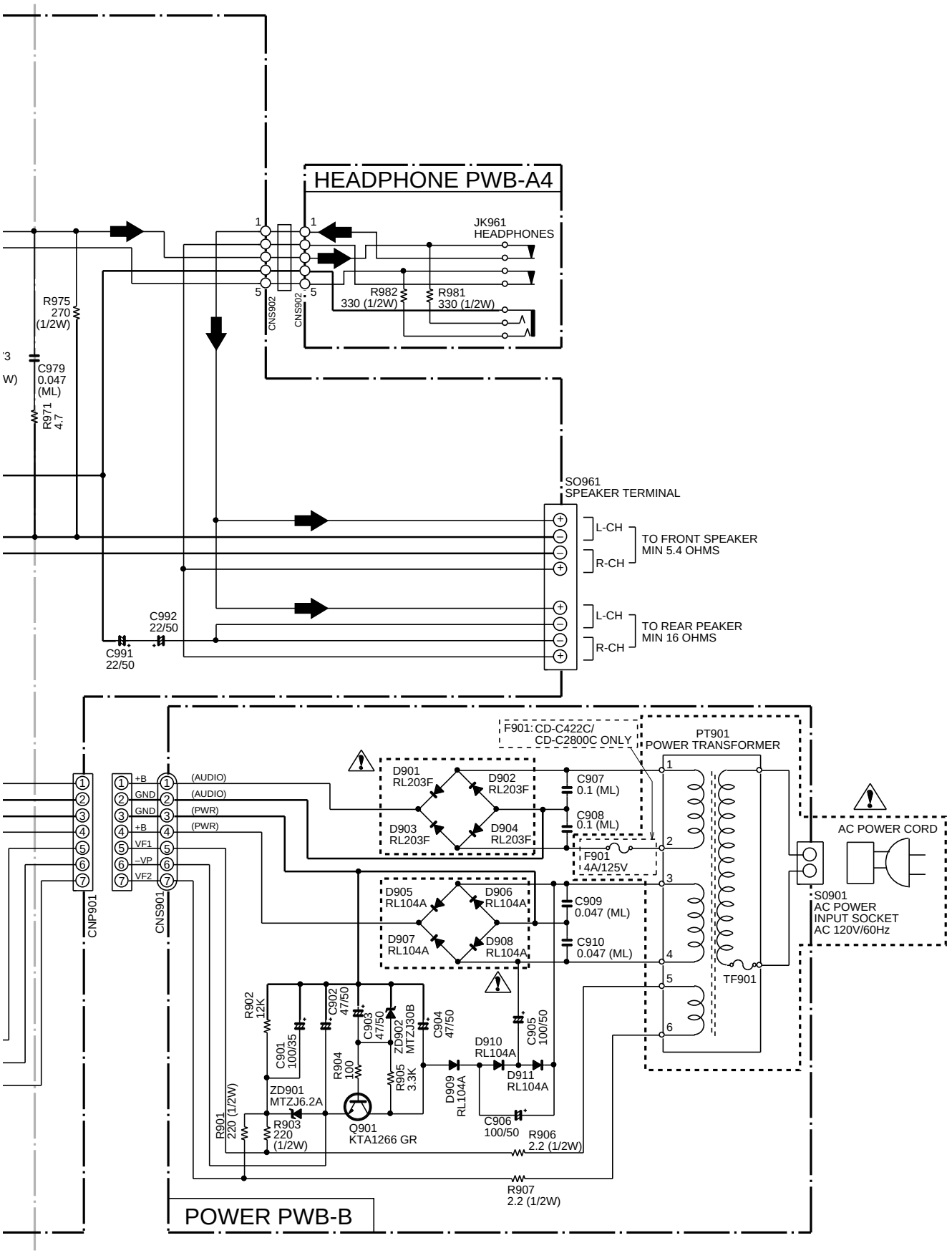
7	8	9	10	11	12

Figure 27 SCHEMATIC DIAGRAM (6/10)



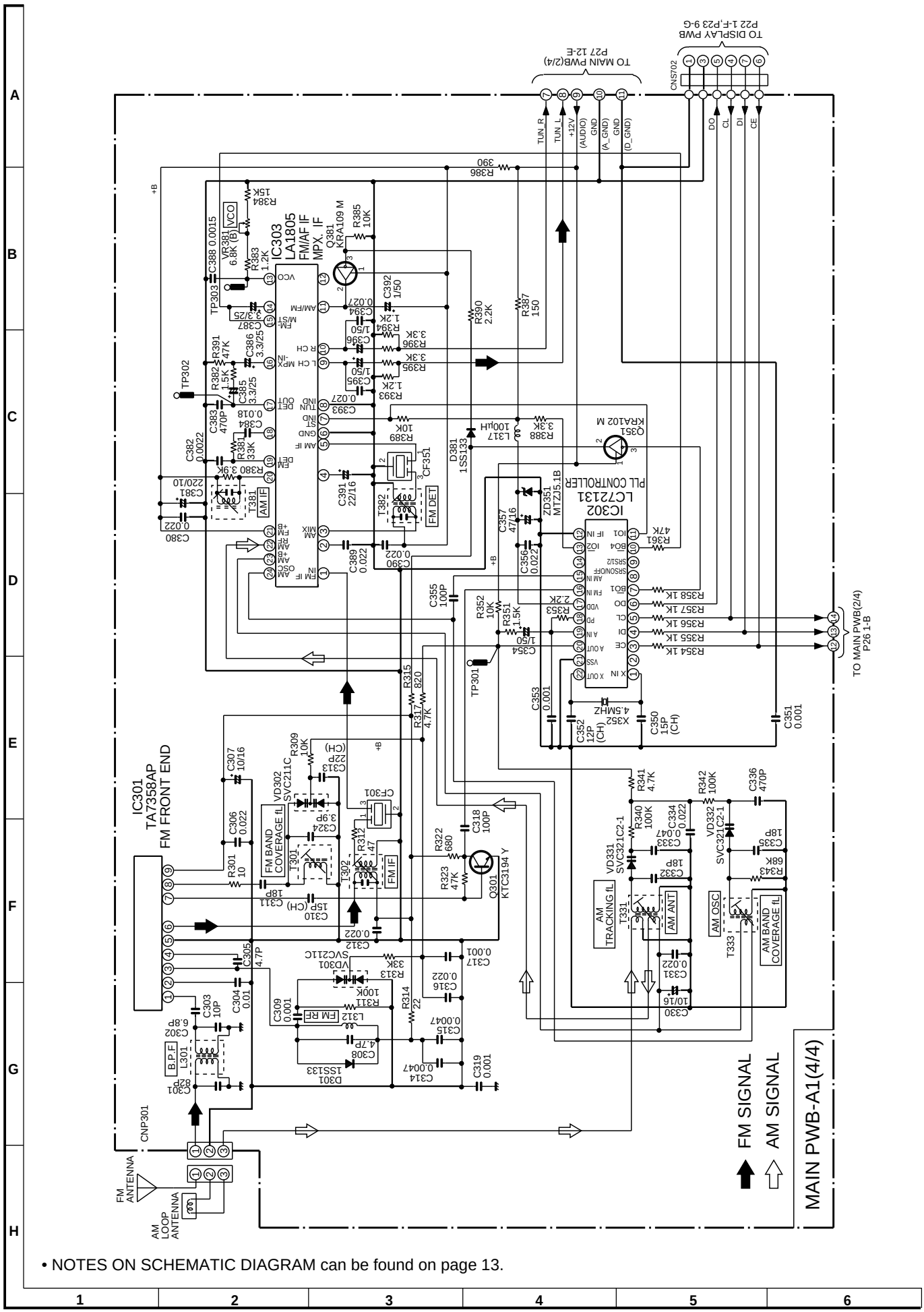
• NOTES ON SCHEMATIC DIAGRAM can be found on page 13.

Figure 28 SCHEMATIC DIAGRAM (7/10)



7	8	9	10	11	12

Figure 29 SCHEMATIC DIAGRAM (8/10)



• NOTES ON SCHEMATIC DIAGRAM can be found on page 13.

Figure 30 SCHEMATIC DIAGRAM (9/10)

IC1	
PIN NO.	VOLTAGE
1	2V
2	2V
3	2.1V
4	2.1V
5	2V
6	2V
7	2V
8	2V
9	2V
10	2V
11	2V
12	2V
13	2V
14	2V
15	2V
16	2V
17	2V
18	2V
19	2V
20	2V
21	2V
22	0V
23	2V
24	2V
25	2V
26	2V
27	2V
28	2V
29	2V
30	1.8V
31	1.8V
32	0V
33	0V
34	4V
35	4V
36	0V
37	0V
38	4V
39	0V
40	0V
41	0.3V
42	2V
43	2.1V
44	2.1V
45	0V
46	2V
47	2V
48	0V
49	0V
50	2V
51	4V
52	4V
53	0V
54	4V
55	4V
56	4V
57	2.1V
58	2.1V
59	0V
60	0V
61	2V
62	3.4V
63	0V
64	4V

IC2	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0V
4	0V
5	1.8V
6	4V
7	0V
8	0V
9	2V
10	2V
11	0V
12	0V
13	0V
14	4V
15	0V
16	0V
17	4V
18	4V
19	0V
20	0V
21	2V
22	0V
23	4V
24	0V
25	0V
26	0V
27	0V
28	0V
29	0V
30	4V
31	2V
32	0V
33	0V
34	0V
35	4V
36	3.8V
37	1.7V
38	0V
39	0V
40	1.7V
41	4V
42	4V
43	4V
44	1.8V
45	1.7V
46	0V
47	0V
48	1.8V
49	0V
50	2V
51	0V
52	2V
53	0V
54	0V
55	0V
56	4.4V
57	4.4V
58	4.4V
59	0V
60	1.6V
61	2V
62	0V
63	0V
64	0V

IC5	
PIN NO.	VOLTAGE
1	2V
2	2V
3	0V
4	2V
5	2V
6	2.2V
7	2.2V
8	0V
9	0V
10	0V
11	0V
12	0V
13	2.2V
14	0V
15	2V
16	0V
17	0V
18	0V
19	0.7V
20	5.2V
21	2V
22	2V
23	2V
24	2V
25	2.2V
26	0V
27	0V
28	0V
29	0V
30	2.2V
31	2.2V
32	2V
33	2V
34	0V
35	0V
36	0V

IC91	
PIN NO.	VOLTAGE
1	0V
2	5.1V
3	0.1V
4	0V
5	0V
6	5.1V
7	0V
8	4.2V
9	0V

IC501	
PIN NO.	VOLTAGE
1	0V
2	0V
3	0.6V
4	3V
5	0V
6	1.3V
7	0V
8	0.6V
9	3V
10	3V
11	0V
12	0V
13	6V
14	3.7V
15	0V
16	3V
17	0.6V
18	0V
19	0.8V
20	0V
21	3V
22	0.6V
23	0V
24	0V

IC301	
PIN NO.	VOLTAGE
1	1V(0V)
2	1.7V(0V)
3	5.6V(0.4V)
4	1.7V(0V)
5	0V(0V)
6	5.7V(0.4V)
7	5V(0.3V)
8	5.6V(0.3V)
9	5.7V(0.3V)

IC302	
PIN NO.	VOLTAGE
1	1.2V(1.2V)
2	0V(0V)
3	0V(0V)
4	4.6V(4.6V)
5	0V(0V)
6	4.5V(4.5V)
7	0.4V(11.3V)
8	0V(0V)
9	0V(0V)
10	1.1V(0V)
11	5.5V(5.5V)
12	0V(0V)
13	0.5V(0.1V)
14	0V(0V)
15	0V(2.6V)
16	1.5V(0V)
17	5.6V(5.3V)
18	1.2V(1V)
19	1.2V(1V)
20	3.8V(1.2V)
21	0V(0V)
22	2.8V(2.6V)

IC303	
PIN NO.	VOLTAGE
1	2V(2V)
2	2V(2V)
3	7.2V(8.2V)
4	0.5V(0.8V)
5	2V(2V)
6	0V(0V)
7	5.5V(5.5V)
8	0V(0V)
9	2.6V(2.6V)
10	2.6V(2.6V)
11	6.3V(8.2V)
12	1.2V(1.2V)
13	1.4V(0V)
14	2.2V(2V)
15	1.3V(1.4V)
16	2V(1.9V)
17	2V(2V)
18	1.6V(1.6V)
19	0.6V(0.7V)
20	7.2V(8.2V)
21	7.2V(8.2V)
22	2V(2V)
23	2V(2V)
24	2V(2V)

IC401	
PIN NO.	VOLTAGE
1	5V
2	5V
3	5V
4	5V
5	5V
6	5V
7	5V
8	5V
9	5V
10	5V
11	5V
12	5V
13	5V
14	5V
15	5.1V
16	4.7V
17	4.7V
18	0V
19	4.7V
20	0V
21	4.7V
22	0V
23	0V
24	4.4V
25	0V
26	0V
27	0V
28	4.7V
29	0V
30	4.7V
31	0V
32	4.7V
33	4.7V
34	5.1V
35	5.1V
36	5.1V
37	5.1V
38	5.1V
39	5.1V
40	5.1V
41	5.1V
42	5.1V
43	5.1V
44	5.1V
45	5.1V
46	5.1V
47	5.1V
48	5V
49	5.1V
50	5.1V
51	5.1V
52	5.1V
53	5.1V
54	0V
55	5.1V
56	5.1V
57	10.2V
58	5.1V
59	0V
60	5.1V
61	5.1V
62	5.1V
63	5.1V
64	5.1V

IC701			
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
1	–24.7V	41	0.41V
2	–24.7V	42	0V
3	–24.7V	43	0V
4	–24.7V	44	4.4V
5	–24.7V	45	0V
6	–24.7V	46	4.4V
7	–24.7V	47	4.4V
8	4.4V	48	0V
9	0V	49	2.7V
10	4.4V	50	11.7V
11	4.4V	51	11.7V
12	0.24V	52	4.4V
13	0V	53	4.4V
14	4.4V	54	4.4V
15	4.4V	55	0V
16	0.12V	56	0V
17	0V	57	4.4V
18	4.4V	58	0V
19	0V	59	0V
20	0V	60	0V
21	0V	61	–21.2V
22	3.8V	62	–18V
23	0V	63	–11.5V
24	0V	64	–27.8V
25	4.4V	65	–24.5V
26	4.4V	66	–14.8V
27	4.4V	67	–24.5V
28	0.6V	68	–21.2V
29	4.4V	69	–27.8V
30	0V	70	–18V
31	4.4V	71	–28V
32	0V	72	–11.5V
33	2V	73	–24.4V
34	2V	74	–24.4V
35	0V	75	14.7V
36	0V	76	–27.8V
37	0V	77	–24.4V
38	4.4V	78	–27.8V
39	4.4V	79	–27.8V
40	0V	80	–24.8V

IC961	
PIN NO.	VOLTAGE
1	24.7V
2	14.19V
3	0V
4	0V
5	14.05V
6	24.8V
7	27.8V(C420)/31.8V(C2700)
8	1.24V
9	5.3mV
10	26.7V
11	0V
12	2.25V
13	5.2mV
14	1.23V

IC941	
PIN NO.	VOLTAGE
1	17.2V
2	0V
3	12V

IC942	
PIN NO.	VOLTAGE
1	17.2V
2	0V
3	5V

Figure 31 SCHEMATIC DIAGRAM (10/10)

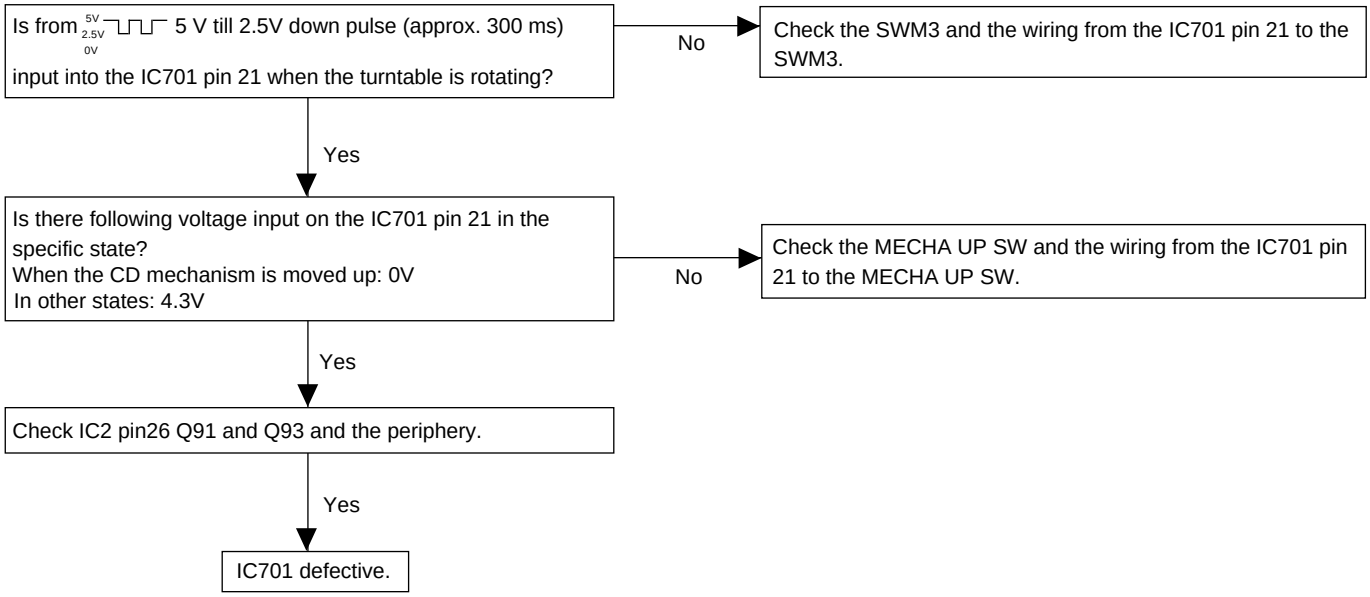
TROUBLESHOOTING (CD SECTION)

When the CD does not function

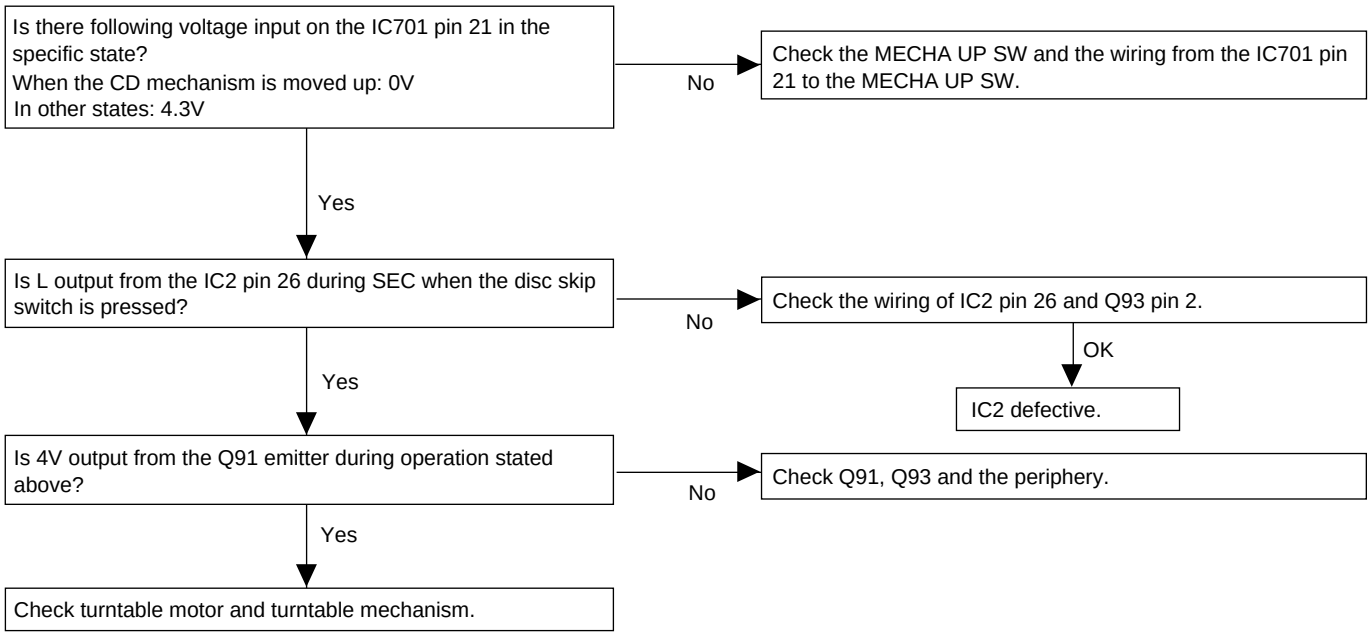
When the CD section does not operate When the objective lens of the optical pickup is dirty,this section may not operate.Clean the objective lens,and check the playback operation.When this section does not operate even after the above step is taken,check the following items.
Remove the cabinet and follow the troubleshooting instructions.
"Track skipping and/or no TOC(Table Of Contents) may be caused by build up of dust other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn the power off.
Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.
Do not touch the lens with the bare hand.

• When the turntable fails to stop.


Is from 5V 2.5V 0V 5 V till 2.5V down pulse (approx. 300 ms) input into the IC701 pin 21 when the turntable is rotating?
No
Check the SWM3 and the wiring from the IC701 pin 21 to the SWM3.
Yes
Is there following voltage input on the IC701 pin 21 in the specific state?
When the CD mechanism is moved up: 0V
In other states: 4.3V
No
Check the MECHA UP SW and the wiring from the IC701 pin 21 to the MECHA UP SW.
Yes
Check IC2 pin26 Q91 and Q93 and the periphery.
Yes
IC701 defective.

• When turntable fails to move.


Is there following voltage input on the IC701 pin 21 in the specific state?
When the CD mechanism is moved up: 0V
In other states: 4.3V
No
Check the MECHA UP SW and the wiring from the IC701 pin 21 to the MECHA UP SW.
Yes
Is L output from the IC2 pin 26 during SEC when the disc skip switch is pressed?
No
Check the wiring of IC2 pin 26 and Q93 pin 2.
OK
IC2 defective.
Yes
Is 4V output from the Q91 emitter during operation stated above?
No
Check Q91, Q93 and the periphery.
Yes
Check turntable motor and turntable mechanism.

• When the CD tray fails to open or close.

Is there following voltage input in specific state of IC701 pin 19?
Open state: 0V
Close state: 0V
Intermediate state between open state and close state: 4.3V

No → Check the OPEN CLOSE SW and the wiring from the IC701 pin 19 to the OPEN CLOSE SW.

Yes ↓

Is H output to IC2 pin 24 or 25 for 7 seconds when the OPEN/CLOSE key is pressed?IC91 is defective. Replace it.

No → Check the wiring of the IC2 pins 24 and 25, IC91 pins 1 and 3.

OK ↓

IC2 defective.

Yes ↓

Is 4V output between IC91 pins 3 and 7 during operation stated above?

No → Check the periphery of IC91.

OK ↓

IC91 defective.

Yes ↓

Check the loading motor (M1) and the loading mechanism.

• The CD function will not work.

The CD operating keys don't work.

Yes ↓

Check the CD, DSP, power supply, and 16.93 MHz clock, and reset terminal.

Yes ↓

Check the waveform of SCK, SO (DATA) and SI (COMM).

Yes ↓

See if the pick-up is in the PICKUP IN SW position.

Yes ↓

If the items mentioned above are OK, check the main microcomputer IC701.

• The CD operating keys work.

Check the Focus - HF system.

Playback can be performed without a disc.

Yes ↓

Does the pick-up move up and down twice?

Yes → Focus search OK

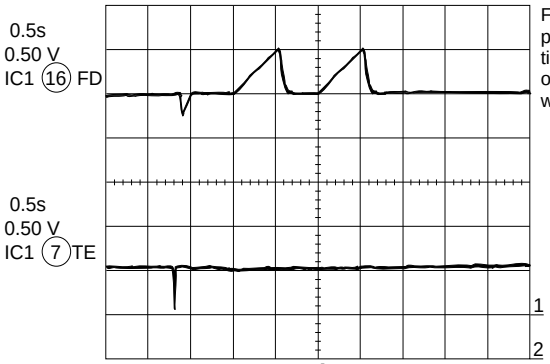
No ↓

Does the output waveform of IC1(16)(FD) match that shown in Fig. 33?

Yes → Check the area around IC5-CNP2.

No ↓

Check the IC1(50)(CLK) line, 4MHz.
Check the microcomputer data on pins (51)(CL), (52)(DAT) and (53)CE.



Focus search is performed two times when play operation is done without disc.

Figure 33

• Playback can only be performed when a disc is loaded.

Is the Focus servo active? (Can you hear it working?)
- No → Check the laser diode driver. Check the area around IC1(16) - (21) (focus servo circuit).
- Yes ↓

Does the DRF signal change from "L" to "H"?
- No → If the disc is not turning, the DRF should not change to "H".
  - Yes → Check the spin system.
- Yes ↓

Is HF waveform normal (see the Fig.34-1, 2)?
- No → Level is abnormal.
  - Yes → Check the periphery of IC1 pins 41 and 42.
- No → Waveform is unstable.
  - Yes → Check the spin system.
- Yes ↓

Check the tracking system.

HF
1.0V/DIV
0.5µsec/DIV(DC)
(When playing back the disc)

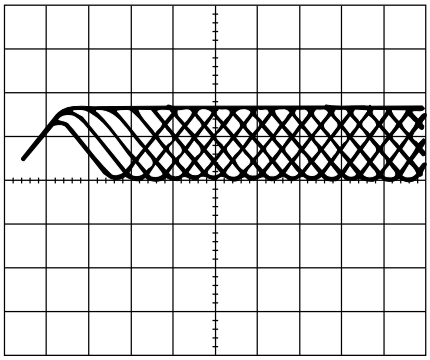


Figure 34-1

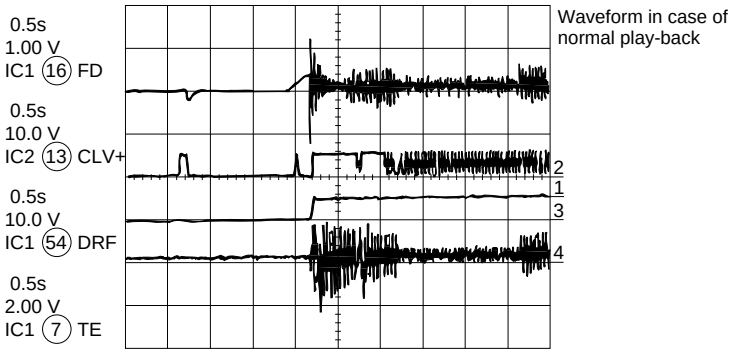


Figure 34-2

• Check the tracking system.

Check waveform of IC1 pin 7 (TE).

- The waveform shown in Fig.34-3 appears, and no-disc state appears soon.
  - Yes → Tracking servo is inoperative.
    - Yes → Check the periphery of IC 1 pin 8 to pin 15, and IC 5 to CNP2.
- Play is possible in TEST mode.
  - Yes → Although IL is possible, play is impossible.
    - Yes → Normal jump is impeded, and the program top cannot be reached.
      - Yes → Check the periphery of IC 1 pin 14.
- Data cannot be read.
  - Yes → Check the VCO-PLL system.

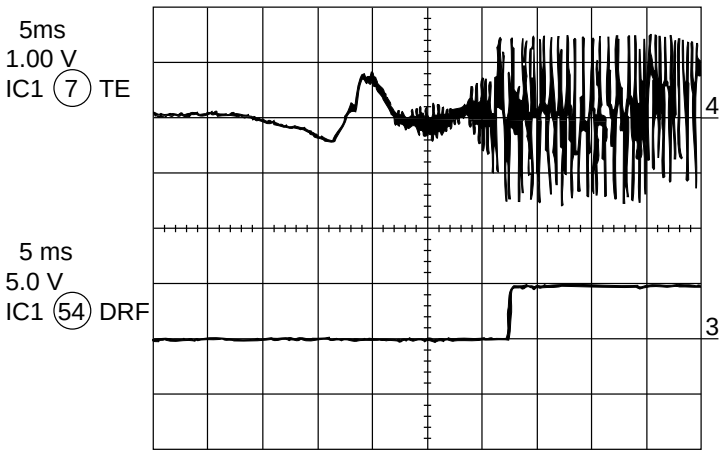


Figure 34-3

• Checking the spin system.

Play operation is performed without disc.

Yes

The turntable rotates a little. — Yes → The spin driver circuit is normal.

No

The turntable fails to rotate or rotates at high speed. — Yes → Check the periphery of IC1 pins 23 to 27, pin 39, and pin 40, IC2 pin 12 and pin 13, IC5 to CNP3.

• Checking the VCO-PLL system

Play operation is performed when disc exits.

Yes

Although HF waveform is normal, TOC data cannot be read. — Yes → Check PDO waveform (Fig. 35).

Abnormal

Check the IC1 pins 43 and 44, IC2 pins 3, 5, 7, 10, and 11.

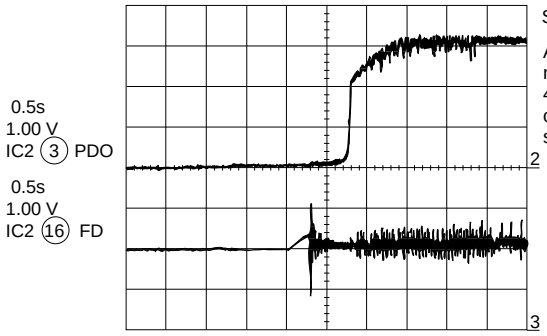


Figure 35

• Although HF waveform is normal and the time indication is normal, no sound is emitted.

Check IC 2 pin 48 (EFLG). — No → Usually, the number of pulses of flawless disc is 100 pulses/sec or less.

Yes

Check IC2 pins 37, 40.

Abnomal

Check IC 401 and POWER AMP IC 801.

FUNCTION TABLE OF IC

IC2 VHiLC78623D-1:Servo/Signal Control(LC78623D) (1/2)

Pin No.	Terminal Name	Input/Output	Function		
1	DEFI	Input	Input terminal of defect detection signal (DEF). (Connected to OV when not used.)		
2	TAI	Input	For PLL	Input terminal for test. Pull-down resistor is integrated. Surely connected to 0V.	
3	PDO	Output		Output terminal of phase comparison for external VCO control.	
4	VVSS	—		Ground terminal for integrated VCO. Surely connected to 0V.	
5	ISET	Input		Resistance connection terminal for current adjustment of PDO output.	
6	VVDD	—		Power terminal for integrated VCO.	
7	FR	Input		VCO frequency range adjustment.	
8	VSS	—	Ground terminal of digital system. Surely connected to 0V.		
9	EFMO	Output	For slice level control	EFM signal output terminal.	
10	EFMIN	Input		EFM signal input terminal.	
11	TEST2	Input	Input terminal for test. Pull-down resistor is integrated. Surely connected to 0V.		
12	CLV+	Outout	Output for disk motor control. 3 values can be output with the commands.		
13	CLV-	Output	Output for disk motor control. 3 values can be output with the commands.		
14	V/P	Output	Monitor output terminal for automatic switch of rough servo/phase control. "H" for rough servo, and "L" for phase servo.		
15	HLF	Intput	Input terminal of track detection signal. Schmit input.		
16	TES	Input	Input terminal of tracking error signal. Schmit input.		
17	TOFF	Output	Tracking OFF output terminal.		
18	TGL	Output	Output terminal for switch of tracking gain "L" increases the gain.		
19	JP+	Output	Output for track jump control. 3 values can be output with the commands.		
20	JP-	Output	Output for track jump control. 3 values can be output with the commands.		
21*	PCK	Output	Clock monitor terminal for EFM data replay. 4,3218MHz as the phase clock.		
22*	FSEQ	Output	Output terminal synchronous signal detection. "H" is output when synchronous signal detected by EFM signal matches synchronous signal internally generated.		
23	VDD	—	Power terminal of digital system.		
24	CONT1	Input/Output	General purpose input/output terminal 1	Controlled with serial data command from micro computer. When not used, set it as the input terminal and open it by connecting to 0V, or set it as the output terminal and open it.	
25	CONT2	Input/Output	General purpose input/output terminal 2		
26	CONT3	Input/Output	General purpose input/output terminal 3		
27*	CONT4	Input/Output	General purpose input/output terminal 4		
28*	CONT5	Input/Output	General purpose input/output terminal 5		
29*	EMPH	Output	Difference monitor terminal At "H", deemphasis disk is being replayed.		
30*	C2F	Output	C2 flag output terminal.		
31*	DOUT	Output	Output terminal of digital OUTPUT. (EIAJ format)		
32	TEST3	Input	Input terminal for test. Pull-down resistor is integrated. Surely connected to 0V.		
33	TEST4	Input	Input terminal for test. Pull-down resistor is integrated. Surely connected to 0V.		
34	N.C.	—	Terminal not used. Open during operation.		
35*	MUTEL	Output	L channel 1 bit DAC	Mute output terminal for L channel.	
36	LVDD	—		Power terminal for L channel.	
37	LCHO	Output		L channel output terminal.	
38	LVSS	—		Ground terminal for L channel Surely connected to 0V.	
39	RVSS	—	R channel 1 bit DAC	Ground terminal for R channel Surely connected to 0V.	
40	RCHO	Output		R channel output terminal.	
41	RVDD	—		Power terminal for R channel.	
42*	MUTER	Output		Mute output terminal for R channel.	
43	XVDD	—	Power terminal for quartz oscillation.		
44	XOUT	Output	Ground terminal of 16.9344 MHz quartz oscillator.		
45	XIN	Input	Ground terminal of 16.9344 MHz quartz oscillator.		
46	XVSS	—	Ground terminal for quartz oscillation. Surely connected to 0V.		
47*	SBSY	Output	Output terminal of synchronous signal of subcode block.		
48*	EFLG	Output	Correction monitor terminal of C1, C2, single and double.		

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC2 VHiLC78623D-1:Servo/Signal Control(LC78623D) (2/2)

Pin No.	Terminal Name	Input/Output	Function
49*	PW	Output	Output terminal of subcodes P, A, R, S, T, U and W.
50*	SFSY	Output	Output terminal of synchronous signal of subcode frame. It drops when subcode stands by.
51	SBCK	Input	Clock input terminal to read subcode. Schmit input (Connected to 0V when not used.)
52*	FSX	Output	Output terminal of synchronous signal of 7.35kHz divided from quartz oscillation.
53	WRQ	Output	Output terminal to stand by output of subcode Q.
54	RWC	Input	Input terminal of read/write. Schmit input.
55	SQOUT	Output	Output terminal of subcode Q.
56	COIN	Input	Command input terminal from microcomputer.
57	$\overline{\text{CQCK}}$	Input	Clock input terminal to fetch command input, or pick up subcode from SQOUT. Schmit input
58	$\overline{\text{RES}}$	Input	Reset input terminal of LC78622. When turning on power, set it at "L".
59*	TEST11	Output	Output terminal for test. Used in the open state ("L" output as ordinary).
60*	16M	Output	Output terminal of 16.9344Hz.
61	4.2M	Output	Output terminal of 4.2336MHz.
62	TEST5	Input	Input terminal for test Pull-down resistor is integrated. Surely connected to 0V.
63	$\overline{\text{CS}}$	Input	Chip selection input terminal. Pull-down resistor is integrated. Connected to 0when not controlled.
64	TEST1	Input	Input terminal for test Pull-down resistor is integrated. Surely connected to 0V.

Note: The same potential must be supplied to the power terminals (VDD, VVDD, LVDD, RVDD, XVDD).

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

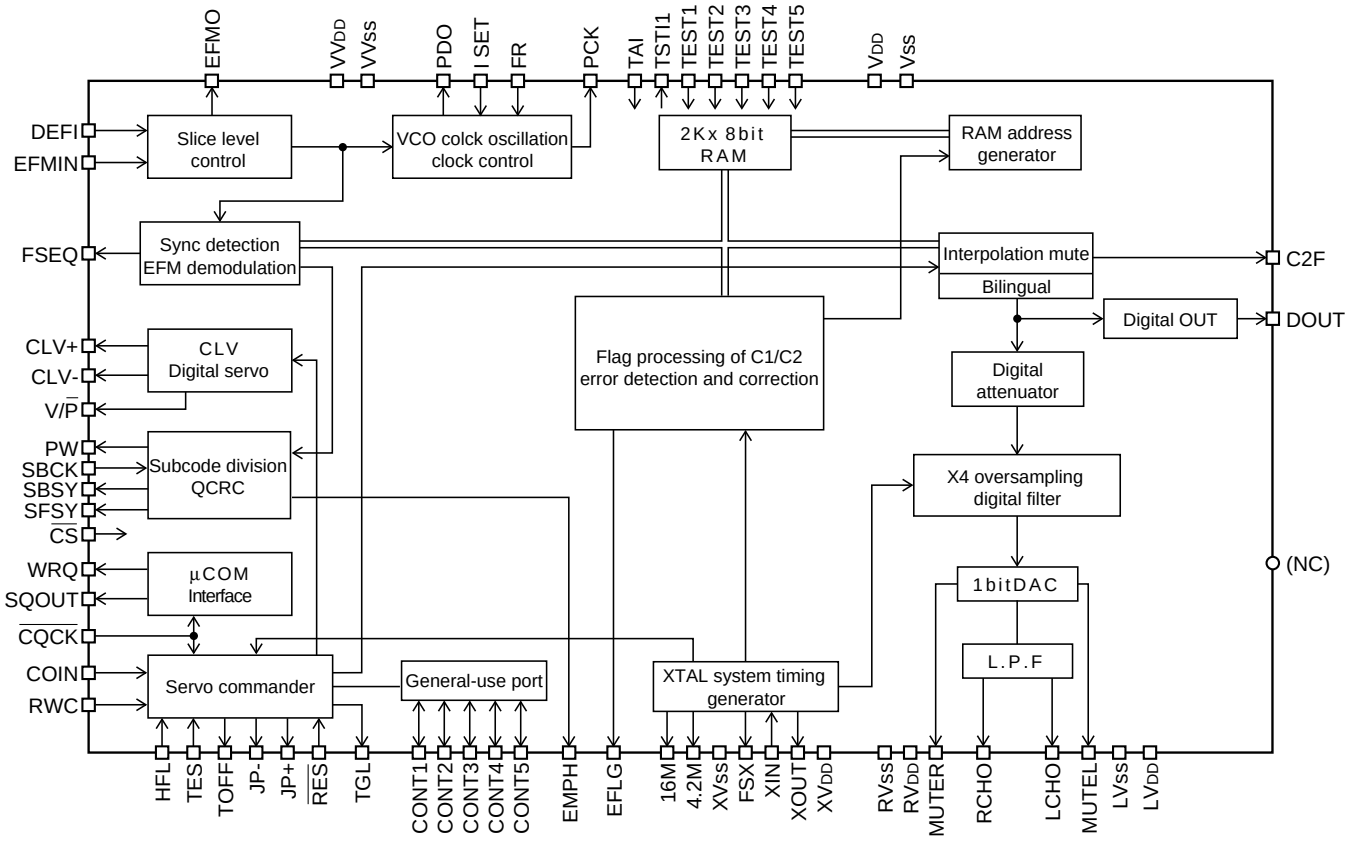


Figure 37 BLOCK DIAGRAM OF IC

IC1 VHiLA9241M/-1:Servo Amp.(LA9241M) (1/2)

Pin No.	Port Name	Function
1	FIN2	Connection pin for photodiode of pickup. RF signal is generated through addition with FIN pin, and FE signal is generated through subtraction.
2	FIN1	Connection pin for photodiode of pickup.
3	E	Connection pin for photodiode of pickup. TE signal is generated through subtraction with F pin.
4	F	Connection pin for photodiode of pickup.
5	TB	Pin for input of DC component of TE signal.
6	TE-	Pin to connect gain setting resistor of TE signal to TE signal.
7	TE	TE signal output pin.
8	TESI	TES (Track error sense) comparator input pin. TE signal is band-passed and input.
9	SCI	Input pin for shock detection.
10	TH	Pin to set time constant of tracking gain.
11*	TA	TA amplifier output pin.
12	TD-	Pin to compose tracking phase compensation constant between TD and VR pins.
13	TD	Pin to set tracking phase compensation.
14	JP	Pin to set amplitude of tracking jump signal (kick pulse).
15	TO	Tracking control signal output pin.
16	FD	Focusing control signal output pin.
17	FD-	Pin to compose focusing phase compensation constant between FD and FA pins.
18	FA	Pin to compose focusing phase compensation constant between FD-/FA-pins.
19	FA-	Pin to compose focusing phase compensation constant between FA and FE pins.
20	FE	Output pin of FE signal.
21	FE-	Pin to connect gain setting resistor of FE signal across TE pin.
22	AGND	GND for analog signal.
23	SP	Single and output for CV+ and CV- pin input.
24	SPI	Spindle amplifier input.
25	SPG	Pin to connect gain setting resistor in the 12cm mode of spindle.
26	SP-	Pin to connect spindle phase compensation constant together with SPD pin.
27	SPO	Spindle control signal output pin.
28	SLEO	Pin to connect thread phase compensation constant.
29	SLD	Thread control signal output pin.
30	SL-	Input pin of thread feed signal from micro computer.
31	SL+	Input pin of thread feed signal from micro computer.
32	JP-	Input pin of tracking jump signal from DSP.
33	JP+	Input pin of tracking jump signal from DSP.
34	TGL	Input pin of tracking gain control signal from DSP. TGL = Gain low at "H"
35	TOFF	Input pin of tracking off control signal from DSP. TOFF = Off at "H"
36	TES	Output pin of TES signal to DSP.
37	HFL	(HIGH FREQUENCY LEVEL) is used to judge whether main beam is positioned on the bit or on the mirror.
38	SLOF	Thread servo off control input pin.
39	CV-	Pin to input CLV error signal from DSP.
40	CV+	Pin to input CLV error signal from DSP.
41	RFSM	RF output pin.
42	RFS-	Pin to set gain of RF and set 3T compensation constant together with RFSM pin.
43	SLC	(SLICE LEVEL CONTROL) is the output pin to control of the level of the data slice with RF waveform DSP.
44	SLI	Input pin to control the level of data slice with DSP.
45	DGND	GND pin in the digital system.
46	FSC	Output pin for focus search smoothening capacitor.
47	TBC	(Tracking Balance Control) Pin to set EF balance variable range.
48*	NC	No connect.
49	DEF	Defect detection output pin of disk.
50	CLK	Reference clock input pin. 4.23MHz of DSP is input.

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC1 VHiLA9241M/-1:Servo Amp.(LA9241M) (2/2)

Pin No.	Port Name	Function
51	CL	Micro computer command clock input pin.
52	DAT	Micro computer command data input pin.
53	CE	Micro computer command chip enable input pin.
54	DRF	(DETECT RF) RF level detection output.
55	FSS	(Focus Serch Select) Pin to switch focus search mode. (± search/+ search for reference voltage)
56	VCC2	VCC pin for servo system and digital system.
57	REFI	Pin to connect pass control for reference voltage.
58	VR	Reference voltage output pin.
59	LF2	Pin to set defect detection time constant of disk.
60	PHI	Pin to connect capacitor for peak hold of RF signal.
61	BHI	Pin to connect capacitor for bottom hold of RF signal.
62	LDD	APC circuit output pin.
63	LDS	APC circuit output pin.
64	VCC1	RF system VCC pin.

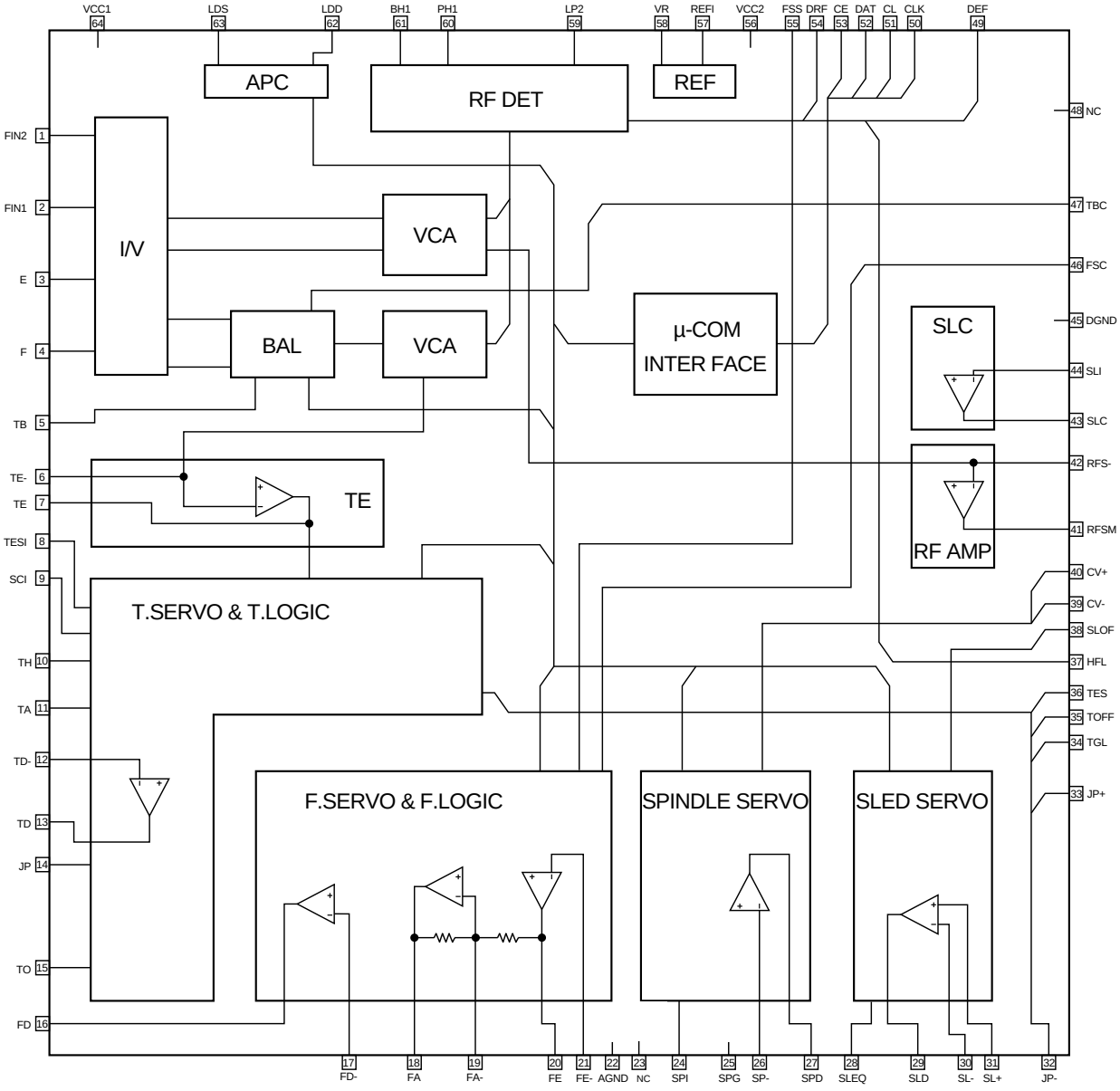


Figure 39 BLOCK DIAGRAM OF IC

IC701 RH-iX0191AWZZ:System Microcomputer (IX0191AW) (1/2)

Pin No.	Port Name	Terminal Name	Input/Output	Function
1-7	FIP6-0	FL DRIVER	Output	Segment Output
8	VDD	VDD	—	Connect with BACK UP VDD
9	P27	TAPE BIAS	Output	TAPE BIAS ON: H
10	P26	TAPE $\overline{REC}$	Output	TAPE REC. ON:L
11	P25	T1/$\overline{T2}$	Output	TAPE2 PLAY:L
12	P24	CD DSP WRQ	Input	CD DSP Write request
13	P23	CD DSP RWC	Output	CD DSP Read write control
14	$\overline{SCK1}$	CD DSP $\overline{CQCK}$	Output	CD DSP Clock
15	SO1	CD DSP COIN	Output	CD DSP Comand
16	SI1	CD DSP SQOUT	Input	CD DSP Code Q out
17	$\overline{RESET}$	$\overline{RESET}$	Input	Reset Input: L
18	P74	CD DSP $\overline{RES}$	Outout	CD Dsplay Reset
19	P73	CD T/T OPEN/CLOSE	Input	CD Turntable open close
20	AVSS	AVSS	—	Connect with GND
21	ANI7	CD UP/DOWN CD DISC NO	Intput	CD mecha up/down CD disc no
22	ANI6	T2 RUN PLSE	Input	TAPE2 Run pulse
23*	ANI5	L-CH CHECK	Input/Output	For TEST mode
24*	ANI4	R-CH CHECK	Input/Output	For TEST mode
25	ANI3	KEY INPUT 3	Input	Key input 3
26	ANI2	KEY INPUT 2	Input	Key input 2
27	ANI1	KEY INPUT 1	Input	Key input 1
28	ANI0	Initial setting input	Input	Initial setting input
29	AVDD	AVDD	—	Connect with BACK UP VDD
30	AVREF	AVREF	—	Connect with UNBACK UP VDD
31	P04	SRS	Input	SRS provided/not provided
32*	XT2	—	—	Not connect
33	VSS	VSS	—	Connect with GND
34	X1	X1	Input	MAIN CLOCK 4.19MHz
35	X2	X2	Output	MAIN CLOCK 4.19NHz
36	P37	C^2B CL	Output	C^2B Bus clock
37	P36	C^2B CE	Output	C^2B Bus chip enable
38	P35	C^2B DI	Output	C^2B Bus comand
39	P34	C^2B DO	Input	C^2B Bus data
40	P33	CD DRF	Input	Data read flug from DSP.
41	P32	CD PUIN	Input	L: Innermost periphery
42	P31	CD SL+	Output	CD PICKUP Slide motor control.
43	P30	CD SL-	Output	CD PICKUP Slide motor control.
44	P03	POWER	Output	POWER ON: H
45	P02	$\overline{TUNER\ SD}$	Input	Tuner SD Signal
46	INPT1	$\overline{SYSTEM\ STOP}$	Input	System Stop Signal
47	INPT0	$\overline{REMOCON}$	Input	Remote Control Code Input
48	IC	INTERNALLY CONECTED	—	Connect with GND
49*	P72	P.B MUTE	Output	P.B MUTE ON: H
50	P71	TAPE SOL.	Output	TAPE SOL. ON: L
51	P70	$\overline{TAPE\ MOTOR}$	Output	TAPE MOTOR ON: L
52	VDD	VDD	—	Connect with BACK UP VDD
53	P127	MIC MUTE	Input	MIC MUTE: L CD STOP, TAPE STOP state: Mute cancel
54*	P126	VOL.0 MUTE	Output	VOL.0 MUTE
55	P125	TAPE F.P.	Input	TAPE FOOL PROOF REC: L

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

IC701 RH-iX0191AWZZ:System Microcomputer (IX0191AW) (2/2)

Pin No.	Port Name	Terminal Name	Input/Output	Function
56	P124	TAPE1 RUN PULSE	Input	TAPE1 Run pluse
57	P123	TAPE MECHA STOP	Input	Tape mecha up state: L
58-60*	P122-P120	DISC1-DISC3	Output	LED drive output
61-70	FIP25-16	FL DRIVER	Output	Segment Output
71	VLOAD	VLOAD	Output	Connect with VPP
72-77	FIP15-FIP10	FL DRIVER	Output	Segment Output
78*	P97		Output	Not connect
79,80	FIP8,FIP7	FL DRIVER	Output	Segment Output

In this unit, the terminal with asterisk mark (*) is (open) terminal which is not connected to the outside.

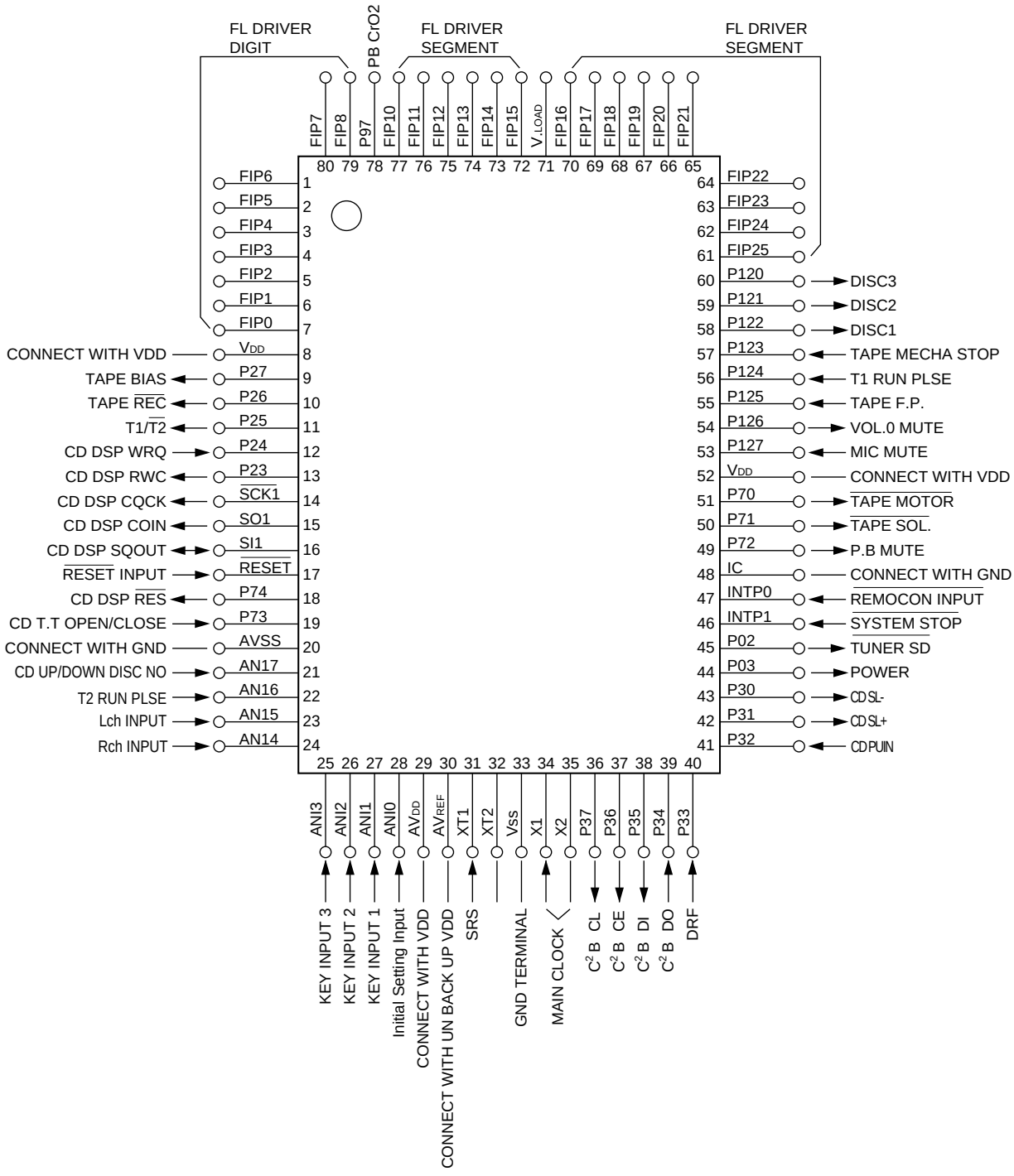

FL DRIVER DIGIT
PB CrO2
FL DRIVER SEGMENT
FL DRIVER SEGMENT
FIP7 FIP8 P97 FIP10 FIP11 FIP12 FIP13 FIP14 FIP15 VLOAD FIP16 FIP17 FIP18 FIP19 FIP20 FIP21
80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65
1 FIP6
2 FIP5
3 FIP4
4 FIP3
5 FIP2
6 FIP1
7 FIP0
8 VDD — CONNECT WITH VDD
9 P27 — TAPE BIAS
10 P26 — TAPE REC
11 P25 — T1/T2
12 P24 — CD DSP WRQ
13 P23 — CD DSP RWC
14 SCK1 — CD DSP CQCK
15 SO1 — CD DSP COIN
16 SI1 — CD DSP SQOUT
17 RESET — RESET INPUT
18 P74 — CD DSP RES
19 P73 — CD T.T OPEN/CLOSE
20 AVSS — CONNECT WITH GND
21 AN17 — CD UP/DOWN DISC NO
22 AN16 — T2 RUN PLSE
23 AN15 — Lch INPUT
24 AN14 — Rch INPUT
64 FIP22
63 FIP23
62 FIP24
61 FIP25
60 P120 — DISC3
59 P121 — DISC2
58 P122 — DISC1
57 P123 — TAPE MECHA STOP
56 P124 — T1 RUN PLSE
55 P125 — TAPE F.P.
54 P126 — VOL.0 MUTE
53 P127 — MIC MUTE
52 VDD — CONNECT WITH VDD
51 P70 — TAPE MOTOR
50 P71 — TAPE SOL.
49 P72 — P.B MUTE
48 IC — CONNECT WITH GND
47 INTP0 — REMOCON INPUT
46 INTP1 — SYSTEM STOP
45 P02 — TUNER SD
44 P03 — POWER
43 P30 — CDSL-
42 P31 — CDSL+
41 P32 — CDPUIN
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
ANI3 ANI2 ANI1 ANI0 AVDD AVREF XT1 XT2 Vss X1 X2 P37 P36 P35 P34 P33
KEY INPUT 3
KEY INPUT 2
KEY INPUT 1
Initial Setting Input
CONNECT WITH VDD
CONNECT WITH UN BACK UP VDD
SRS
GND TERMINAL
MAIN CLOCK
C2B CL
C2B CE
C2B DI
C2B DO
DRF

Figure 41 BLOCK DIAGRAM OF IC

IC5 VHiM56748FP-1: Focus/Tracking/Spin/Slide Driver (M56748FP)

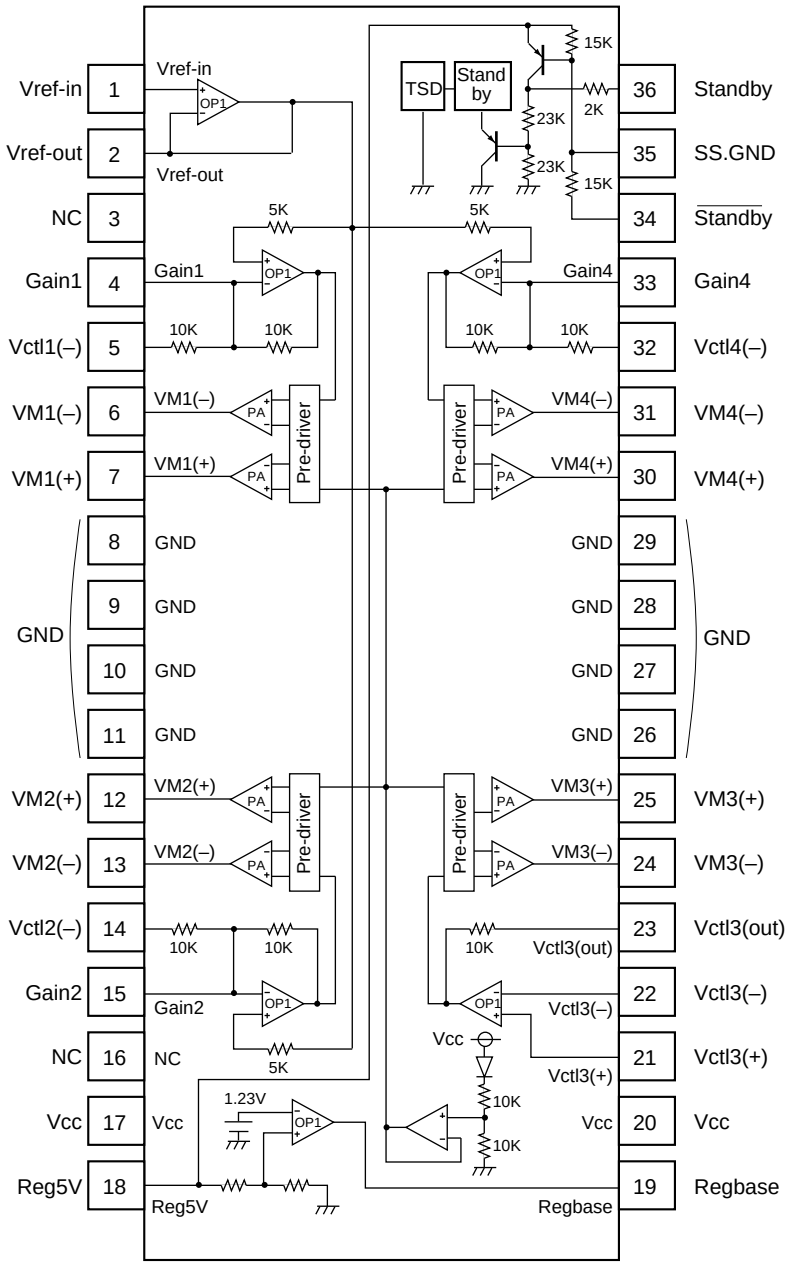


Figure 42-1 BLOCK DIAGRAM OF IC5

FL701 : VVKFiP9EM7R-1 FL Display

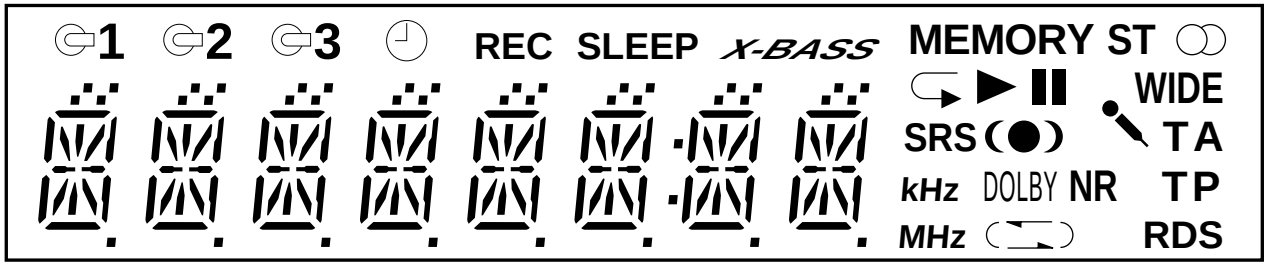


Figure 42-2 FL DISPLAY

SHARP PARTS GUIDE

MODEL CD-C422/C422C

CP-C422, REAR SPEAKER SYSTEM,
Constitute CD-C422/C422C.

CD-C2800/C2800C

CP-C2800, REAR SPEAKER SYSTEM,
Constitute CD-C2800/C2800C.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

For U.S.A. only

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,
Please call Toll-Free;
1-800-BE-SHARP

Explanation of capacitors/resistors parts codes

Capacitors

VCC ..... Ceramic type
VCK ..... Ceramic type
VCT ..... Semiconductor type
VC • • MF ..... Cylindrical type (without lead wire)
VC • • MN ..... Cylindrical type (without lead wire)
VC • • TV ..... Square type (without lead wire)
VC • • TQ ..... Square type (without lead wire)
VC • • CY ..... Square type (without lead wire)
VC • • CZ ..... Square type (without lead wire)
VC • • • • • • • • • J .. The 13th character represents capacity difference.
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

Resistors

VRD ..... Carbon-film type
VRS ..... Carbon-film type
VRN ..... Metal-film type
VR • • MF ..... Cylindrical type (without lead wire)
VR • • MN ..... Cylindrical type (without lead wire)
VR • • TV ..... Square type (without lead wire)
VR • • TQ ..... Square type (without lead wire)
VR • • CY ..... Square type (without lead wire)
VR • • CZ ..... Square type (without lead wire)
VR • • • • • • • • • J .. The 13th character represents error.
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set.
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
INTEGRATED CIRCUITS				
IC1	VHILA9241M/-1	J	AS	Servo Amp.,LA9241M
IC2	VHILC78623D-1	J	AY	Servo/Signal Control,LC78623D
IC5	VHIM56748FP-1	J	AR	Focus/Tracking/Spin/Slide Driver,M56748FP
IC91	VHITA7291S/-1	J	AH	Loading Motor Driver, TA7291S
IC301	VHITA7358AP-1	J	AG	FM Front End,TA7358AP
IC302	VHILC72131/-1	J	AP	PLL (Tuner) LC72131
IC303	VHILA1805//-1	J	AM	FM/AF IF MPX.,LA1805
IC401	VHILC75394E-1	J	AX	Audio Processor LC75394E
IC501	VHIAN7345K/-1	J	AM	Playback and Record/Playback Amp.,AN7345K
IC701	RH-IX0191AWZZ	J	AZ	System Microcomputer, IX0191AW
IC941	VHIKIA7812P-1	J	AE	Voltage Regulator,KIA7812P
IC942	VHIKIA7805P-1	J	AF	Voltage Regulator,KIA7805P
IC961	VHILA4450//-1	J	AH	Power Amp.,LA4450
TRANSISTORS				
Q1	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q91	VSKTA1271Y/-1	J	AC	Silicon,PNP,KTA1271 Y
Q93	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q301	VSKTC3194Y/-1	J	AD	Silicon,NPN,KTC3194 Y
Q351	VSKRA102M//-1	J	AC	Digital,PNP,KRA102 M
Q381	VSKRA109M//-1	J	AC	Digital,PNP,KRA109 M
Q511~514	VSKTC3200GR-1	J	AC	Silicon,NPN,KTC3200 GR
Q515,516	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q565	VSKRC104M//-1	J	AC	Digital,NPN,KRC104 M
Q566	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q571	VSKTC3203Y/-1	J	AC	Silicon,NPN,KTC3203 Y
Q575,576	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q581	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q582,583	VSKRC104M//-1	J	AC	Digital,NPN,KRC104 M
Q584	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q701	VSKRC107M//-1	J	AC	Digital,NPN,KRC107 M
Q702	VSKRC102M//-1	J	AC	Digital,NPN,KRC102 M
Q703	VSKTA1273Y/-1	J	AE	Silicon,PNP,KTA1273 Y
Q704,705	VSKTC3199GR-1	J	AB	Silicon,NPN,KTC3199 GR
Q706	VSKTA1271Y/-1	J	AC	Silicon,PNP,KTA1271 Y
Q901	VSKTA1266GR-1	J	AB	Silicon,PNP,KTA1266 GR
Q941	VS2SD2012Y/-1	J	AF	Silicon,NPN,2SD2012 Y
DIODES				
D2	VHD1SS133//-1	J	AA	Silicon,1SS133
D81	VHD1SS133//-1	J	AA	Silicon,1SS133
D91	VHD1SS133//-1	J	AA	Silicon,1SS133
D301	VHD1SS133//-1	J	AA	Silicon,1SS133
D381	VHD1SS133//-1	J	AA	Silicon,1SS133
D401	VHD1SS133//-1	J	AA	Silicon,1SS133
D701~708	VHD1SS133//-1	J	AA	Silicon,1SS133
⚠ D901~904	VHDRL203F//-1	J	AE	Silicon,RL203F
⚠ D905~908	VHDRL104A//-1	J	AB	Silicon,RL104A
D909~911	VHDRL104A//-1	J	AB	Silicon,RL104A
VD301,302	VHCSVC211C/-1	J	AG	Variable Capacitance,SVC211C
VD331,332	VHCSVC321C2-1	J	AG	Variable Capacitance, SVC321C2-1
ZD351	VHEMTZJ5R1B-1	J	AC	Zener,5.1V,MTZJ5.1B
ZD701	VHEMTZJ3R3B-1	J	AA	Zener,3.3V,MTZJ3.3B
ZD901	VHEMTZJ6R2A-1	J	AA	Zener,6.2V,MTZJ6.2A
ZD902	VHEMTZJ300B-1	J	AB	Zener,30V,MTZJ30B
FILTERS				
CF301	RFILF0124AFZZ	J	AD	FM IF,10.7 MHz
CF351	92LFILTA1768A	J	AE	AM IF
TRANSFORMERS				
⚠ PT901	RTRNP0217AWZZ	J	BE	Power
T301	RCILB0060AWZZ	J	AC	OSC,FM
T302	RCILI0012AWZZ	J	AD	FM IF
T331	RCILA0052AWZZ	J	AE	AM Antenna
T333	RCILB0058AWZZ	J	AC	OSC,AM
T381	RCILI0016AWZZ	J	AC	FM Detection
T382	RCILI0015AWZZ	J	AE	AM IF
COILS				
L1	VP-CH270K0000	J	AB	2.7 µH,Choke
L301	RCILF0001AWZZ	J	AC	Band Pass Filter
L312	RCILR0029AWZZ	J	AA	FM RF
L317	VP-DH101K0000	J	AB	100 µH,Choke
L501	VP-MK331K0000	J	AB	330 µH,Choke
L701	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
L963	VP-DH2R2K0000	J	AB	2.2 mmH,Peaking
VARIABLE RESISTOR				
VR381	RVR-M0025AWZZ	J	AC	6.8 kohms (B),Semi-VR [VCO]
VIBRATORS				
X352	RCRSP0002AWZZ	J	AH	Crystal,4.5 MHz
XL1	92LCRSTL1746AT	J	AH	Crystal,16.93 MHz
XL701	RCRSP0003AWZZ	J	AH	Crystal
CAPACITORS				
C1	VCTYMN1CY103N	J	AA	0.01 µF,16V
C2	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C3	VCEAZA1HW104M	J	AB	0.1 µF,50V,Electrolytic
C4	VCKYMN1HB102K	J	AA	0.001 µF,50V
C5,6	VCTYPA1CX333K	J	AA	0.033 µF,16V
C7	VCEAZA1HW104M	J	AB	0.1 µF,50V,Electrolytic
C8	VCTYPA1CX683K	J	AA	0.068 µF,16V
C9	VCTYPA1CX473K	J	AA	0.047 µF,16V
C10	VCKYMN1HB181K	J	AA	180 pF,50V
C11	VCTYPA1CX104K	J	AB	0.1 µF,16V
C12	VCKYMN1HB331K	J	AA	330 pF,50V
C13	VCTYPA1CX104K	J	AB	0.1 µF,16V
C14	VCTYMN1CY103K	J	AA	0.01 µF,16V
C15	VCTYMN1CX472K	J	AA	0.0047 µF,16V
C16	VCKYMN1HB102K	J	AA	0.001 µF,50V
C17	VCEAZA1HW474M	J	AB	0.47 µF,50V,Electrolytic
C18	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C19	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C20	VCTYMN1CX332K	J	AA	0.0033 µF,16V
C21	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C22	VCTYMN1CY103N	J	AA	0.01 µF,16V
C24	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C25	VCTYMN1CY103N	J	AA	0.01 µF,16V
C30	VCCSMN1HL2R2C	J	AB	2.2 pF,50V
C31	VCTYMN1CX272K	J	AA	0.0027 µF,16V
C32	VCCSMN1HL270J	J	AA	27 pF,50V
C33	VCKYMN1HB102K	J	AA	0.001 µF,50V
C34	VCTYPA1CX333K	J	AA	0.033 µF,16V
C35	VCEAZA1HW104M	J	AB	0.1 µF,50V,Electrolytic
C37	VCEAZA0JW227M	J	AC	220 µF,6.3V,Electrolytic
C38	VCTYMN1CY103K	J	AA	0.01 µF,16V
C39	VCEAZA1HW474M	J	AB	0.47 µF,50V,Electrolytic
C40	VCEAZA1HW334M	J	AB	0.33 µF,50V,Electrolytic
C41,42	VCTYPA1CX473K	J	AA	0.047 µF,16V
C43,44	VCEAZA1AW107M	J	AB	100 µF,10V,Electrolytic
C45	VCEAZA1EW475M	J	AC	4.7 µF,25V,Electrolytic
C50	VCTYPA1CX104K	J	AB	0.1 µF,16V
C51	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C52	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C53	VCKYMN1HB221K	J	AA	220 pF,50V
C54~57	VCKYMN1HB101K	J	AA	100 pF,50V
C59	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C67,68	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C69,70	VCKYMN1HB221K	J	AA	220 pF,50V
C91	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C92	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C94,95	VCKYMN1HB102K	J	AA	0.001 µF,50V
C301	VCKYMN1HB820K	J	AA	82 pF,50V
C302	VCCUMN1HJ6R8D	J	AB	6.8 pF (UJ),50V
C303	VCCSMN1HL100J	J	AA	10 pF,50V
C304	VCTYMN1CY103N	J	AA	0.01 µF,16V
C305	VCCSMN1HL4R7C	J	AA	4.7 pF,50V
C306	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C307	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C308	VCCUMN1HJ4R7D	J	AA	4.7 pF (UJ),50V
C309	VCKYMN1HB102K	J	AA	0.001 µF,50V
C310	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C311	VCCSMN1HL180J	J	AA	18 pF,50V
C312	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C313	VCCCMN1HH220J	J	AA	22 pF (CH),50V
C314,315	VCTYMN1CX472K	J	AA	0.0047 µF,16V
C316	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C317	VCKYMN1HB102K	J	AA	0.001 µF,50V

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C318	VCKYMN1HB101K	J	AA	100 pF,50V
C319	VCKYMN1HB102K	J	AA	0.001 µF,50V
C324	VCCUMN1HJ3R9K	J	AA	3.9 pF (UJ),50V
C330	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C331	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C332	VCCUMN1HJ180J	J	AA	18 pF (UJ),50V
C333	VCKZPA1HF473Z	J	AA	0.047 µF,50V
C334	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C335	VCCUMN1HJ180J	J	AA	18 pF (UJ),50V
C336	VCKYMN1HB471K	J	AA	470 pF,50V
C350	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C351	VCKYBT1HB102K	J	AA	0.001 µF,50V
C352	VCCCMN1HH120J	J	AA	12 pF (CH),50V
C353	VCKYMN1HB102K	J	AA	0.001 µF,50V
C354	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C355	VCKYMN1HB101K	J	AA	100 pF,50V
C356	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C357	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C380	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C381	VCEAZA1AW227M	J	AC	220 µF,10V,Electrolytic
C382	VCTYMN1CX222K	J	AA	0.0022 µF,16V
C383	VCKYMN1HB471K	J	AA	470 pF,50V
C384	VCTYMN0JY183M	J	AA	0.018 µF,6.3V
C385~387	VCEAZA1EW335M	J	AB	3.3 µF,25V,Electrolytic
C388	CPU100V1500PJ	J		0.0015 µF,100V, Polypropylene
C389,390	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C391	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C392	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C393,394	VCTYPA1CX273K	J	AA	0.027 µF,16V
C395,396	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C401~408	VCQYKA1HM473K	J	AB	0.047 µF,50V,Mylar
C411,412	VCKYMN1HB391K	J	AA	390 pF,50V
C415,416	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C417,418	VCKYMN1HB101K	J	AA	100 pF,50V
C421,422	VCEAZA1HW334M	J	AB	0.33 µF,50V,Electrolytic
C423,424	VCQYKA1HM563K	J	AB	0.056 µF,50V,Mylar
C425~428	VCFYHA1HA184J	J	AC	0.18 µF,50V,Thin Film
C429,430	VCTYPA1CX333K	J	AA	0.033 µF,16V
C431,432	VCQYKA1HM392K	J	AA	0.0039 µF,50V,Mylar
C441,442	VCTYMN1CX272K	J	AA	0.0027 µF,16V
C443,444	VCKYMN1HB101K	J	AA	100 pF,50V
C445,446	VCEAZA1CW106M	J	AC	10 µF,16V,Electrolytic
C447~449	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C450	VCEAZA1CW107M	J	AC	100 µF,16V,Electrolytic
C451,452	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C453	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C454,455	VCEAZA1HW225M	J	AB	2.2 µF,50V,Electrolytic
C456	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C501,502	VCKYMN1HB102K	J	AA	0.001 µF,50V
C503,504	VCKYMN1HB331K	J	AA	330 pF,50V
C511,512	VCKYMN1HB181K	J	AA	180 pF,50V
C513,514	VCKYMN1HB102K	J	AA	0.001 µF,50V
C519,520	VCKYMN1HB331K	J	AA	330 pF,50V
C531,532	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C533,534	VCTYPA1CX333K	J	AA	0.033 µF,16V
C535,536	VCKYMN1HB561K	J	AA	560 pF,50V
C539,540	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C543	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C544	VCEAZA1EW335M	J	AB	3.3 µF,25V,Electrolytic
C553,554	VCKYMN1HB102K	J	AA	0.001 µF,50V
C555,556	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C557,558	VCTYPA1CX683K	J	AA	0.068 µF,16V
C559,560	VCTYMN1CX332K	J	AA	0.0033 µF,16V
C561,562	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C563	VCTYPA1CX823K	J	AB	0.082 µF,16V
C564	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C565	VCEAZA1AW227M	J	AC	220 µF,10V,Electrolytic
C570	VCQYKA1HM392K	J	AA	0.0039 µF,50V,Mylar
C571	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C572	VCQYKA1HM273K	J	AB	0.027 µF,50V,Mylar
C581	VCKZPA1HF473Z	J	AA	0.047 µF,50V
C582	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C583	VCEAZA1CW226M	J	AC	22 µF,16V,Electrolytic
C701	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C702	VCEAZA0JW227M	J	AC	220 µF,6.3V,Electrolytic
C707	VCCCMN1HH150J	J	AA	15 pF (CH),50V
C708	VCCCMN1HH180J	J	AA	18 pF (CH),50V
C709,710	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C711	VCEAZA1EW335M	J	AB	3.3 µF,25V,Electrolytic
C712	VCKYMN1HB102K	J	AA	0.001 µF,50V
C713	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C714,715	VCTYMN1CY103N	J	AA	0.01 µF,16V

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C716	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C717	VCTYMN1EF223Z	J	AA	0.022 µF,25V
C718	VCEAZA0JW227M	J	AC	220 µF,6.3V,Electrolytic
C719	VCEAZA0JW107M	J	AC	100 µF,6.3V,Electrolytic
C720	VCKYMN1HB102K	J	AA	0.001 µF,50V
C901	VCEAZA1VW107M	J	AC	100 µF,35V,Electrolytic
C902~904	VCEAZA1HW476M	J	AB	47 µF,50V,Electrolytic
C905,906	VCEAZA1HW107M	J	AC	100 µF,50V,Electrolytic
C907,908	VCQYKA1HM104K	J	AB	0.1 µF,50V,Mylar
C909,910	VCQYKA1HM473K	J	AB	0.047 µF,50V,Mylar
C941	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C942,943	VCEAZA1CW476M	J	AB	47 µF,16V,Electrolytic
C944	VCQYKA1HM104K	J	AB	0.1 µF,50V,Mylar
C945	VCQYKA1HM223K	J	AB	0.022 µF,50V,Mylar
C946,947	VCQYKA1HM104K	J	AB	0.1 µF,50V,Mylar
C948	VCEAZW1EW338M	J		3300 µF,25V,Electrolytic
C949	VCEAZW1HW228M	J		2200 µF,50V,Electrolytic
C961,962	VCTYMN1CX152K	J	AA	0.0015 µF,16V
C963,964	VCEAZA1HW105M	J	AB	1 µF,50V,Electrolytic
C965~967	VCEAZA1HW107M	J	AC	100 µF,50V,Electrolytic
C968	VCKYBT1HB102K	J	AA	0.001 µF,50V
C969,970	VCEAZA1HW476M	J	AB	47 µF,50V,Electrolytic
C973	VCEAZA1HW107M	J	AC	100 µF,50V,Electrolytic
C974	VCKZPA1HF223Z	J	AA	0.022 µF,50V
C975,976	VCEAZV1EW108M	J	AE	1000 µF,25V,Electrolytic
C979,980	VCQYKA1HM473K	J	AB	0.047 µF,50V,Mylar
C991,992	VCEAZA1HW226M	J	AB	22 µF,50V,Electrolytic

RESISTORS

	VRD-MN2BD000C	J	AA	0 ohm,Jumper,ø1.4×3.5mm,Ivory
R1	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R2	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R3	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R4	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R5	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R6	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R7	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R8	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R9	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R10	VRD-ST2CD823J	J	AA	82 kohms,1/6W
R11	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R12	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R13	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R14	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R15	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R16	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R17	VRD-MN2BD823J	J	AA	82 kohms,1/8W
R18	VRD-ST2CD335J	J	AA	3.3 Mohms,1/6W
R19	VRD-MN2BD393J	J	AA	39 kohms,1/8W
R20	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R21	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R22	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R23	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R24	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R25	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R26	VRD-ST2CD224J	J	AA	220 kohms,1/6W
R27	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R28,29	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R30	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R31	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R32	VRD-MN2BD563J	J	AA	56 kohms,1/8W
R33	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R34	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R35	VRD-MN2BD471J	J	AA	470 ohms,1/8W
R36	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R37	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R38	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R39,40	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R41	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R42	VRD-MN2BD561J	J	AA	560 ohms,1/8W
R43	VRD-MN2BD120J	J	AA	12 ohms,1/8W
R45~47	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R54	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R56	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R57	VRD-MN2BD273J	J	AA	27 kohms,1/8W
R58	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R60	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R61	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R70~72	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R73,74	VRD-MN2BD272J	J	AA	2.7 kohms,1/8W
R75,76	VRD-MN2BD271J	J	AA	270 ohms,1/8W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R77~79	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R82	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R86~88	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R95	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R96	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R97	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R98	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R99	VRD-ST2EE560J	J	AA	56 ohms,1/4W
R301	VRD-MN2BD100J	J	AA	10 ohm,1/8W
R309	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R311	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R312	VRD-ST2CD470J	J	AA	47 ohms,1/6W
R313	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R314	VRD-ST2CD220J	J	AA	22 ohms,1/6W
R315	VRD-MN2BD821J	J	AA	820 ohms,1/8W
R317	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R322	VRD-MN2BD681J	J	AA	680 ohms,1/8W
R323	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R340	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R341	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R342	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R343	VRD-MN2BD683J	J	AA	68 kohms,1/8W
R351	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R352	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R353	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R354~360	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R361	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R380	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R381	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R382	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R383	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R384	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R385	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R386	VRD-ST2EE391J	J	AA	390 ohms,1/4W
R387	VRD-ST2EE151J	J	AA	150 ohms,1/4W
R388	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R389	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R390	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R391	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R393,394	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R395,396	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R401~408	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R411,412	VRD-MN2BD393J	J	AA	39 kohms,1/8W
R413,414	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R415,416	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R417,418	VRD-MN2BD153J	J	AA	15 kohms,1/8W
R420	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R421	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R425~427	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R431	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R432	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R501	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R502	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R510	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R511,512	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R513,514	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R515	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R516~518	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R519	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R520	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R531,532	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R533,534	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R535,536	VRD-ST2CD560J	J	AA	56 ohms,1/6W
R537,538	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R539,540	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R541	VRD-MN2BD223J	J	AA	22 kohms,1/8W
R542	VRD-MN2BD683J	J	AA	68 kohms,1/8W
R551,552	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R553,554	VRD-MN2BD682J	J	AA	6.8 kohms,1/8W
R555,556	VRD-MN2BD561J	J	AA	560 ohms,1/8W
R557,558	VRD-MN2BD560J	J	AA	56 ohms,1/8W
R559~561	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R562	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R563	VRD-ST2EE471J	J	AA	470 ohms,1/4W
R565	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R566,567	VRD-MN2BD472J	J	AA	4.7 kohms,1/8W
R568	VRD-RT2HD151J	J	AA	150 ohms,1/2W
R569	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R570	VRD-MN2BD473J	J	AA	47 kohms,1/8W
R571	VRD-MN2BD120J	J	AA	12 ohms,1/8W
R575	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R576	VRD-MN2BD103J	J	AA	10 kohm,1/8W

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
R577,578	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R581~583	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R584	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R585	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R702	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R704	VRD-MN2BD152J	J	AA	1.5 kohms,1/8W
R707	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R710	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R711	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R712	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R715	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R716	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R717	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R718	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R719	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R720	VRD-MN2BD182J	J	AA	1.8 kohms,1/8W
R721	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R722	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R723	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R724~726	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R727~731	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R732	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R733,734	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R735,736	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R739	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R740~742	VRD-MN2BD822J	J	AA	8.2 kohms,1/8W
R743	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R744	VRD-ST2CD122J	J	AA	1.2 kohms,1/6W
R745	VRD-ST2CD182J	J	AA	1.8 kohms,1/6W
R746	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R747	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R748	VRD-MN2BD562J	J	AA	5.6 kohms,1/8W
R749	VRD-MN2BD123J	J	AA	12 kohms,1/8W
R750~753	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R759	VRD-MN2BD392J	J	AA	3.9 kohms,1/8W
R760	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R761	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R762~764	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R765~769	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R770,771	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R773	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R774	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R775,776	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R777,778	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R779	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R780~782	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R783,784	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R785	VRD-ST2CD120J	J	AA	12 ohms,1/6W
R786	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R787	VRD-MN2BD151J	J	AA	150 ohms,1/8W
R788~791	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R795	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R796	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R797	VRD-MN2BD332J	J	AA	3.3 kohms,1/8W
R798	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R799	VRD-MN2BD101J	J	AA	100 ohm,1/8W
R800	VRD-MN2BD820J	J	AA	82 ohms,1/8W
R801	VRD-MN2BD222J	J	AA	2.2 kohms,1/8W
R802	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R803	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R804	VRD-MN2BD104J	J	AA	100 kohm,1/8W
R805	VRD-MN2BD122J	J	AA	1.2 kohms,1/8W
R806	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R813	VRD-RT2HD100J	J	AA	10 ohm,1/2W
R814	VRD-MN2BD224J	J	AA	220 kohms,1/8W
R901	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R902	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R903	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R904	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R905	VRD-ST2CD332J	J	AA	3.3 kohms,1/6W
R906,907	VRD-ST2EE2R2J	J	AA	2.2 ohms,1/4W
R941	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R961,962	VRD-MN2BD333J	J	AA	33 kohms,1/8W
R965,966	VRD-MN2BD102J	J	AA	1 kohm,1/8W
R967,968	VRD-MN2BD221J	J	AA	220 ohms,1/8W
R969	VRD-MN2BD103J	J	AA	10 kohm,1/8W
R971,972	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R973	VRD-RT2HD271J	J	AA	270 ohms,1/2W
R975	VRD-RT2HD271J	J	AA	270 ohms,1/2W
R981,982	VRD-RT2HD331J	J	AA	330 ohms,1/2W

NO.	PART CODE	★	PRICE RANK	DESCRIPTION

OTHER CIRCUITRY PARTS

BIM5/CNS10/CNS5	QCNWN0894AWZZ	J	AH	Connector Ass'y,6-10-2Pin
CNP1	92LCONE5P53253	J	AB	Plug,5Pin
CNP2	92LCONE8P53253	J	AC	Plug,8Pin
CNP3	92LCONE6P53253	J	AC	Plug,6Pin
CNP3A	92LCONE6P53254	J	AC	Plug,6Pin
CNP10	92LCONEAP53253	J	AC	Plug,10Pin
CNP301	92LCONE-3P5268	J	AC	Plug,3Pin
CNP501	92LCONE3P5267X	J	AB	Plug,3Pin
CNP502	92LCONE7P5267X	J	AC	Plug,7Pin
CNP901	QCNCM035GAWZZ	J	AC	Plug,7Pin
CNPM1	QCNCM932MAFZZ	J	AE	Plug,12Pin
CNPM2	QCNCM030BAWZZ	J	AB	Pin Holder,2Pin
CNS1A/B	QCNWN0891AWZZ	J	AG	Connector Ass'y,5-5Pin
CNS2A/B	QCNWN0892AWZZ	J	AF	Connector Ass'y,8-8Pin
CNS3A/B	QCNWN0893AWZZ	J	AF	Connector Ass'y,6-6Pin
CNS501	QCNWN0895AWZZ	J	AE	Connector Ass'y,3Pin
CNS502	QCNWN0896AWZZ	J	AG	Connector Ass'y,7Pin
CNS701	QCNWN0902AWZZ	J	AC	Flat Wire,3Pin
CNS702,703	QCNWN1250AWZZ	J	AE	Flat Wire,11Pin
CNS704	QCNWN1251AWZZ	J	AE	Flat Wire,9Pin
CNS705/CNSM1	QCNWN0897AWZZ	J	AF	Connector Ass'y,8-12Pin
CNS901	QCNWN1248AWZZ	J	AK	Connector Ass'y,7-7Pin
CNS902	QCNWN1249AWZZ	J	AE	Flat Wire,5Pin
⚠ F901	92LFUSE-T402D	J	AD	Fuse,4A/125V [CD-C422C/C2800C]
FL701	VVKFIP9EM7R-1	J	AV	FL Display
FWM1	QCNWN1274AWZZ	J	AC	Flat Cable,2Pin
FWM2	QCNWN0338AWZZ	J	AD	Flat Cable,2Pin
JK961	QJAKM0004AWZZ	J	AK	Jack,Headphones
M1	92LMTR1858CASY	J	AS	Motor with Chassis [Disc]
M2	92LMTR1854BASY	J	AP	Motor with Gear [Slide]
M3	92LMTR2037AS1	J	AP	Motor with Pulley [T/T Up/Down Loading]
MM1	RMOTV0006AWM1	J	AR	Motor with Pulley [Tape]
PHM1	VHPI31535CD-1	J	AG	Phote Interrupter
RX701	VHLN63H380A-1	J	AK	Remote Sensor,N63H380A
SO401	92LJACKL1676A	J	AF	Jack,AUX/VIDEO
⚠ SO901	QSOCA0209AWZZ	J	AH	Socket,AC Power Input
SO961	QTANA0801AWZZ	J	AK	Terminal,Speaker
SOLM1	RPLU-0002AWZZ	J	AH	Solenoid Ass'y. [TAPE]
SOLM2	RPLU-0002AWZZ	J	AH	Solenoid Ass'y. [CD]
SW1	QSW-P0004AWZZ	J	AE	Switch,Push Type [Open/Close]
SW2	QSW-F0001AWZZ	J	AD	Switch,Leaf/Skeleton Type [Mecha Up]
SW3	QSW-P0005AWZZ	J	AD	Switch,Push Type [DISC Number]
SW4	QSW-F9001AW01	J	AD	Switch,Leaf Type [Pickup In]
SW701	92LSWITCH1401A	J		Switch,Key Type [RANDOM/DEMO]
SW702	92LSWITCH1401A	J		Switch,Key Type [VOLUME DOWN]
SW703	92LSWITCH1401A	J		Switch,Key Type [X-BASS/EQUALIZER]
SW704	92LSWITCH1401A	J		Switch,Key Type [VOLUME UP]
SW705	92LSWITCH1401A	J		Switch,Key Type [REC PAUSE DEMO]
SW706	92LSWITCH1401A	J		Switch,Key Type [FF/PRESET]
SW707	92LSWITCH1401A	J		Switch,Key Type [Stop]
SW708	92LSWITCH1401A	J		Switch,Key Type [Play]
SW709	92LSWITCH1401A	J		Switch,Key Type [REW/PRESET]
SW710	92LSWITCH1401A	J		Switch,Key Type [TUNING UP]
SW711	92LSWITCH1401A	J		Switch,Key Type [TUNING DOWN]
SW712	92LSWITCH1401A	J		Switch,Key Type [POWER]
SW713	92LSWITCH1401A	J		Switch,Key Type [CLOCK]
SW714	92LSWITCH1401A	J		Switch,Key Type [TIMER/SLEEP]
SW715	92LSWITCH1401A	J		Switch,Key Type [MEMORY/SET]
SW716	92LSWITCH1401A	J		Switch,Key Type [CD]
SW717	92LSWITCH1401A	J		Switch,Key Type [TUNER/BAND]
SW718	92LSWITCH1401A	J		Switch,Key Type [TAPE]
SW719	92LSWITCH1401A	J		Switch,Key Type [VIDEO/AUX]
SW723	92LSWITCH1401A	J		Switch,Key Type [DISC SKIP]
SW724	92LSWITCH1401A	J		Switch,Key Type [OPEN/CLOSE]
SWM3	92LM-SW1676A	J	AC	Switch,Leaf Type [Fool Proof]
SWM4	QSW-F9003AWZZ	J	AG	Switch,Leaf Type [F.A.S]
SWM5	92LM-SW1658A	J	AB	Switch,Leaf Type [CAM]

CD MECHANISM PARTS

301	NGERH0011AWZZ	J	AC	Gear,Middle
302	NGERH0012AWZZ	J	AC	Gear,Drive
303	MLEVP0010AWZZ	J	AC	Rail,Guide
304	NSFTM0002AWFW	J	AE	Shaft,Guide
305	92LM-CUSN1524A	J	AC	Cushion
⚠ 306	92LHPC1MASY	J	BG	Pickup Unit Ass'y
306- 1	————		—	Pickup Unit (Not Replacement Item)
306- 2	NGERR0043AFZZ	J	AC	Gear,Rack
306- 3	MSPRC0961AFZZ	J	AA	Spring,Rack
701	XBSSD26P06000	J	AA	Screw,ø2.6×6mm
702	XHBSD20P05000	J	AA	Screw,ø2×5mm
703	XBBSD20P03000	J	AA	Screw,ø2×3mm
704	LX-WZ1070AFZZ	J	AA	Washer,ø1.5×ø3.8×0.25mm
M1	92LMTR1858CASY	J	AS	Motor with Chassis [Disc]
M2	92LMTR1854BASY	J	AP	Motor with Gear [Slide]
SW4	QSW-F9001AW01	J	AD	Switch,Leaf Type [Pickup In]

CABINET PARTS

201	92LCAB2823AS1	J	AY	Front Panel Ass'y [CD-C422/C422C]
201	92LCAB2825AS1	J		Front Panel Ass'y [CD-C2800/C2800C]
201- 1	————		—	Front Panel (Not Replacement Item)
201- 2	JKNBZ0473AWSA	J	AD	Button [OPEN/CLOSE]
202	92LHOLD2037AS1	J	AK	Stabilizer Ass'y
202- 1	————		—	Stabilizer (Not Replacement Item)
202- 2	PMAGF0001AWZZ	J	AF	Magnet
202- 3	92LSUPT1749D	J	AA	Support,Magnet
203	92LMECHA2823A	J	BL	Cassette Mechanism Ass'y
203- 1	NBLTK0011AWZZ	J	AC	Belt,Main,Tape 1
203- 2	NBLTK0012AWZZ	J	AB	Belt,Main,Tape 2
203- 3	NBLTK0030AWZZ	J	AC	Belt,Sub
203- 4	NROLY0002AWZZ	J	AF	Pinch Roller Ass'y
203- 5	RHEDA0001AWZZ	J	AG	Head,Erase
203- 6	92LMRPH1746A	J	AM	Haed,Record/Playback [Tape 1/Tape 2]
203- 7	RMOTV0006AWM1	J	AR	Motor with Pulley [TAPE], [MM1]
203- 8	RPLU-0002AWZZ	J	AH	Solenoid Ass'y [TAPE], [SOLM1]
204	92LN-BAND1318A	J	AA	Nylon Band,80mm
205	GCAB-1044AWSA	J	AM	Cabinet,CD Player Base
206	GCAB-1050AWSA	J	AP	Top Cabinet [CD-C422/C422C]
206	GCAB-1050AWSB	J	AS	Top Cabinet [CD-C2800/C2800C]
207	GCOVA1186AWSA	J	AE	Cover,CD Tray Panel,Left [CD-C422/C422C]
207	GCOVA1186AWSB	J	AF	Cover,CD Tray Panel,Left [CD-C2800/C2800C]
208	GCOVA1187AWSA	J	AE	Cover,CD Tray Panel,Right [CD-C422/C422C]
208	GCOVA1187AWSB	J	AF	Cover,CD Tray Panel,Right [CD-C2800/C2800C]
209	GCOVA1199AWSA	J	AG	Cover,CD Tray
210	GDORF0054AWSA	J		Cassette Holder,Tape 1 [CD-C422/C422C]
210	GDORF0054AWSB	J		Cassette Holder,Tape 1 [CD-C2800/C2800C]
211	GDORF0055AWSA	J		Cassette Holder,Tape 2 [CD-C422/C422C/C2800C]
211	GDORF0055AWSB	J		Cassette Holder,Tape 2 [CD-C2800/C2800C]
212	GITAR0321AWSA	J	AK	Back Board [CD-C422]
212	GITAR0327AWSA	J	AK	Back Board [CD-C422C]
212	GITAR0340AWSA	J	AK	Back Board [CD-C2800]
212	GITAR0352AWSA	J		Back Board [CD-C2800C]
213	GITAS0050AWSA	J	AM	Side Panel,Left [CD-C422/C422C]
213	GITAS0050AWSB	J	AM	Side Panel,Left [CD-C2800/C2800C]
214	GITAS0051AWSA	J	AM	Side Panel,Right [CD-C422/C422C]
214	GITAS0051AWSB	J	AM	Side Panel,Right [CD-C2800/C2800C]
215	HDECQ0296AWSA	J	AF	Panel,Cassette,Tape 1

NO.	PART CODE	★	PRICE RANK	DESCRIPTION
216	HDECQ0297AWSA	J	AF	Panel,Cassette,Tape 2
217	HDECQ0299AWSA	J	AG	CD Top Panel
218	HDECQ0335AWSA	J	AK	Display Panel [CD-C422/C422C]
218	HDECQ0359AWSA	J	AL	Display Panel [CD-C2800/C2800C]
219	JKNBZ0516AWSA	J	AF	Button Function [CD-C422/C422C]
219	JKNBZ0516AWSB	J	AG	Button Function [CD-C2800/C2800C]
220	JKNBZ0517AWSA	J	AD	Button [X-BASS] [CD-C422/C422C]
220	JKNBZ0517AWSB	J	AF	Button [X-BASS] [CD-C2800/C2800C]
221	JKNBZ0518AWSA	J	AD	Button [CLOCK/TIMER/SLEEP]
222	JKNBZ0520AWSA	J	AH	Button,OPERATION B
223	JKNBZ0519AWSA	J	AH	Button,OPERATION A
224	JKNBZ0521AWSA	J	AE	Button [TUNING/TIME]
225	JKNBZ0522AWSA	J	AE	Button [RANDOM/DEMO]
226	LANGF0032AWZZ	J	AC	Support,T/T Lock Lever
227	LANGT0049AWFW	J		Bracket,Heat Sink
228	LCHSM0070AWSA	J	AM	Cabinet,Bottom
229	LCHSZ0010AWZZ	J	AM	Chassis,Loading
230	LCHSZ0011AWZZ	J	AG	Chassis,CD Mechanism
231	LHLDZ1087AWSA1	J	AC	Holder,FL Display
232	LHLDZ1139AWSA	J	AD	Support,Stabilizer
233	LHLDZ1140AWZZ	J	AB	Guide
234	LHLDZ1141AWZZ	J	AB	Support,Pitch
235	MLEVP0066AWZZ	J	AE	Lever,Shift
236	MLEVP0067AWZZ	J	AC	Lever,Lock
237	MLEVP0068AWZZ	J	AB	Lever,Change
238	MLEVP0070AWZZ	J	AB	Lever,T/T Lock
239	MLIFP0003AWZZ	J	AE	Damper
240	MSPRC0020AWFJ	J	AB	Spring,T/T Lock Lever
241	MSPRC0024AWFW	J	AB	Spring,Solenoid
242	MSPRD0044AWFJ	J	AB	Spring,Lock Lever
243	MSPRD0092AWFJ	J	AB	Spring,Cassette,Tape 1
244	MSPRD0093AWFJ	J	AB	Spring,Cassette,Tape 2
245	NBLTK0029AWZZ	J	AB	Belt,Drive
246	NGERH0064AWZZ	J	AD	Gear,Cam
247	NGERH0065AWZZ	J	AB	Gear,Turntable
248	NGERK0003AWZZ	J	AC	Gear,Drive
249	NGERK0004AWZZ	J	AB	Gear,Bevel
250	NGERK0005AWZZ	J	AB	Gear,Loading
251	NGERW0006AWZZ	J	AC	Gear,Worm Wheel
252	NPLYD0001AWZZ	J	AB	Pulley
253	NROLP0009AWZZ	J	AB	Roller
254	NTNT-0018AWSA	J	AK	Turntable
255	PCUSG0022AWZZ	J	AB	Cushion,Leg
256	PRDAR0113AWFW	J	AV	Heat Sink
⚠ 257	QFSHD0001AWZZ	J	AB	Holder,Fuse [CD-C422C/C2800C]
258	QLUGP0001AWZZ	J	AC	Lug Terminal [Lug 961,962]
601	LX-EZ0005AWFD	J	AA	Screw,Special
602	LX-JZ0002AWFD	J	AA	Screw,ø3×10mm
603	LX-JZ0004AWFD	J	AA	Screw,ø3×12mm
604	LX-JZ0022AFFD	J	AA	Screw,ø3×8mm
605	LX-TZ0019AFZZ	J	AB	Screw,Special
606	XBPSD26P05JS0	J	AB	Screw,ø2.6×5mm
607	XEBSD26P12000	J	AA	Screw,ø2.6×12mm
608	XEBSD30P10000	J	AA	Screw,ø3×10mm
608	XEBSD30P10000	J	AA	Screw,ø3×10mm
608	XEBSD30P10000	J	AA	Screw,ø3×10mm
609	XEBSD30P12000	J	AA	Screw,ø3×12mm
610	XEBSD40P12000	J	AA	Screw,ø4×12mm
611	XEBSF30P10000	J	AA	Screw,ø3×10mm
612	XEBSF30P12000	J	AA	Screw,ø3×12mm
613	XESSD30P10000	J	AA	Screw,ø3×10mm
614	XHBSF30P08000	J	AA	Screw,ø3×8mm
615	XJBSD30P08000	J	AA	Screw,ø3×8mm
616	XJBSD30P10000	J	AA	Screw,ø3×10mm
617	XJSSF30P10000	J	AA	Screw,ø3×10mm
618	XWHJZ62-09510	J		Washer,ø6.2×ø10×0.9mm

SPEAKER BOX PARTS Front Speaker CP-C422

901	999723001004	J	AZ	Speaker Box Ass'y
902	199731800069	J	AU	Net Frame Ass'y
903	199741500072	J		Super Tweeter Ass'y
904	135604321035	J	AB	Screw,ø3×34mm
905	137640631105	J	AC	Leber,Specification
906	92L394-0024	J		Port Cushion
907	92L302-0002	J		Woofer Support
908	92L316-0022	J		Duct Panel
SP1,2	VSP0013PB246A	J	BA	Speaker,Woofer

SPEAKER BOX PARTS Front Speaker CP-C2800

901	999723001005	J		Speaker Box Ass'y
902	199731800070	J		Net Frame Ass'y
903	199741500071	J		Super Tweeter Ass'y
904	135604141031	J	AB	Screw,ø4×14mm
905	137640631109	J		Label,Specification
906	109760021039	J		Port Cushion
907	151731801046	J		Duct Panel
SP1,2	VSP0010WBV36A	J		Speaker,Woofer
SP3,4	VSP0050TBK66A	J		Speaker,Tweeter

SPEAKER BOX PARTS Rear Speaker

901	92L291-0061	J	AM	Speaker Cord
902	92L120-0001	J	AU	Net Frame Ass'y
903	92L314-0025	J		Bottom Cabinet [CD-C2800/C2800C]
903	92L314-0026	J	AQ	Bottom Cabinet [CD-C422/C422C]
904	92L372-0028	J	AB	Screw,ø3×20mm
SP1,2	VSP0010PBV5CA	J	AX	Speaker,Full Range

ACCESSORIES/PACKING PARTS (For Canada Only)

⚠	QACCD0017AW00	J	AL	AC Power Cord
	QANTL0004AWZZ	J	AG	FM/AM Loop Antenna
	SPAKA0197AWZZ	J	AN	Packing Add.,Unit
	SPAKC0648AWZZ	J	AX	Packing Case [CD-C422C]
	SPAKC0664AWZZ	J	AX	Packing Case [CD-C2800C]
	SPAKP0013AWZZ1	J	AC	Polyethylene Bag,Unit
	SPAKZ0383AWZZ	J	AB	Sheet
	TINSK0070AWZZ	J	AH	Operation Manual [CD-C422C]
	TINSK0073AWZZ	J		Operation Manual [CD-C2800C]
	TLABRF210AWZZ	J	AB	Label,Bar Code [CD-C422C]
	TLABRF211AWZZ	J	AB	Label,Bar Code [CD-C2800C]
	137640521106	J	AF	Lebel,Pop [CP-C422]
	137640521111	J		Label,Pop [CP-C2800]
	92L411-0064	J		Polyethylene Bag,Front Speaker
	139760041025	J		Packing Add.,Front Speaker [CP-C422]
	139764081026	J		Packing Add.,Top,Front Speaker [CP-C2800]
	139764081027	J		Packing Add.,Bottom,Front Speaker [CP-C2800]
	92LBAG1460C1	J	AB	Polyethylene Bag,Operation Manual
	92L411-0063	J	AB	Polyethylene Bag,Rear Speaker
	92L412-0064	J	AQ	Packing Add.,Rear Speaker
	RRMCG0099AWSA	J	AR	Remote Control
	92LLID1782A	J		Battery Lid,Remote Control

ACCESSORIES (For U.S.A Only)

	QACCD0010AW00	J	AR	AC Power Cord
	QANTL0004AWZZ	J	AG	FM/AM Loop Antenna
	TINSE0208AWZZ	J	AE	Operation Manual [CD-C422]
	TINSE0217AWZZ	J	AE	Operation Manual [CD-C2800]
	TINSZ0299AWZZ	J	AC	Quick Guide [CD-C422]
	TINSZ0319AWZZ	J	AB	Quick Guide [CD-C2800]
	RRMCG0099AWSA	J	AR	Remote Control
	92LLID1782A	J		Battery Lid,Remote Control

P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A1~4	92LPWB2823MANS	J	—	Main/Display/Switch/Jack (Combined Ass'y)
⚠ PWB-B	92LPWB2823PWRS	J	—	Power
PWB-C	QPWBF0106AWZZ	J	AF	Tape Mechanism (PWB Only)
PWB-D	QPWBF0341AWZZ	J	AB	Sensor (PWB Only)
PWB-E	QPWBF0027AWZZ	J	AD	CD Motor (PWB Only)

CD-C422/C422C/
C2800/C2800C

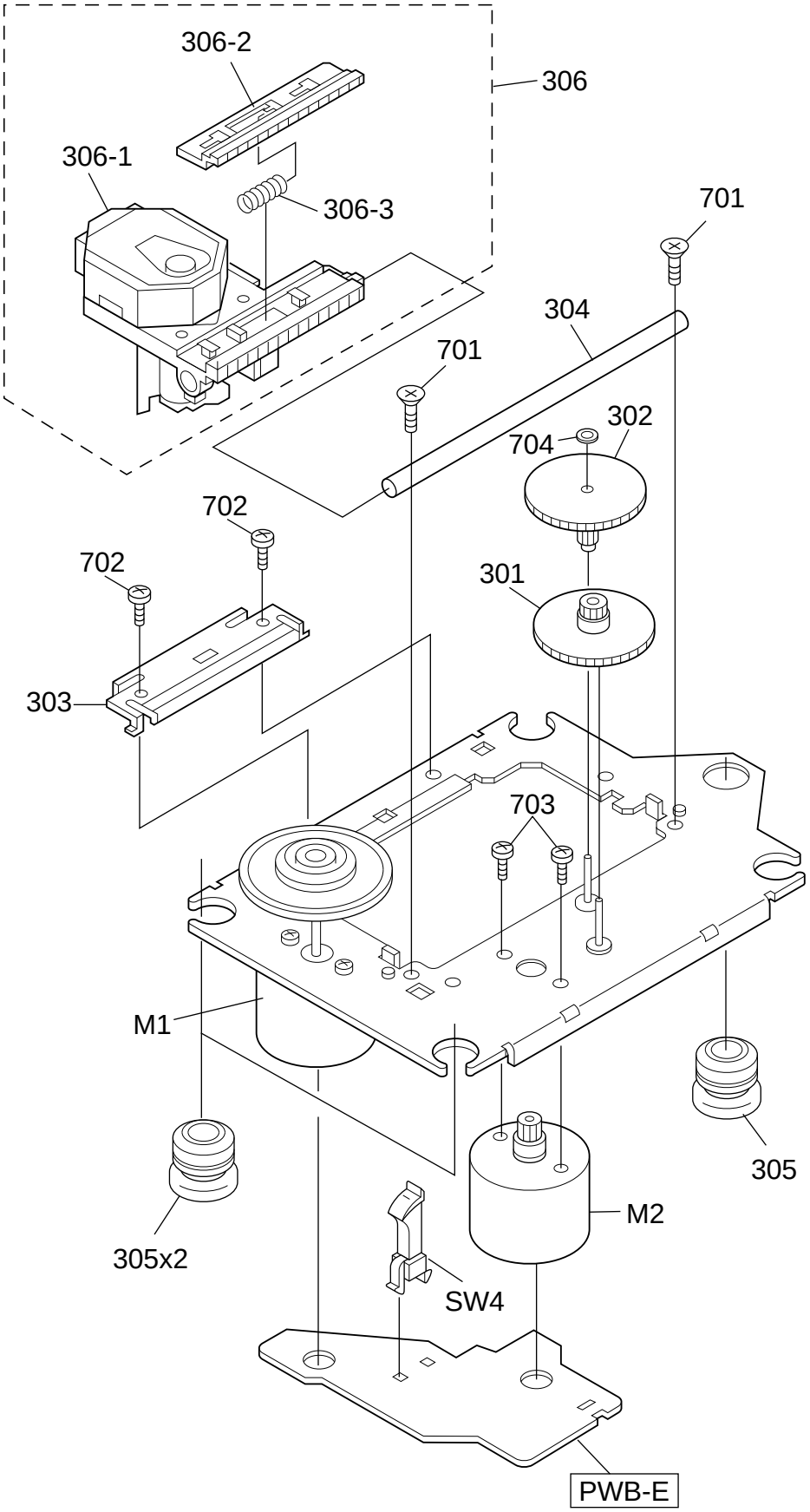


Figure 6 CD MECHANISM EXPLODED VIEW

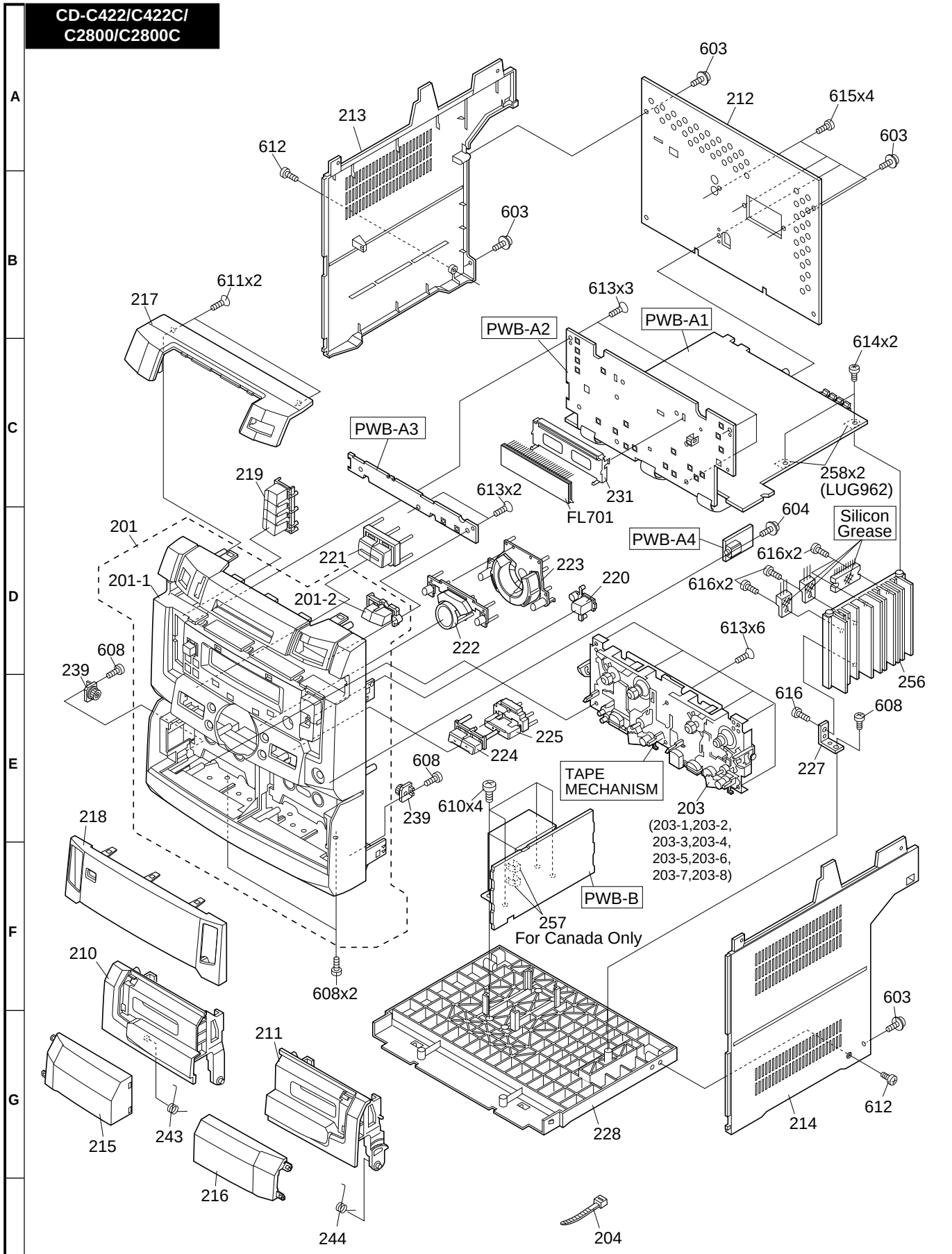


Figure 7 CABINET EXPLODED VIEW (1/2)

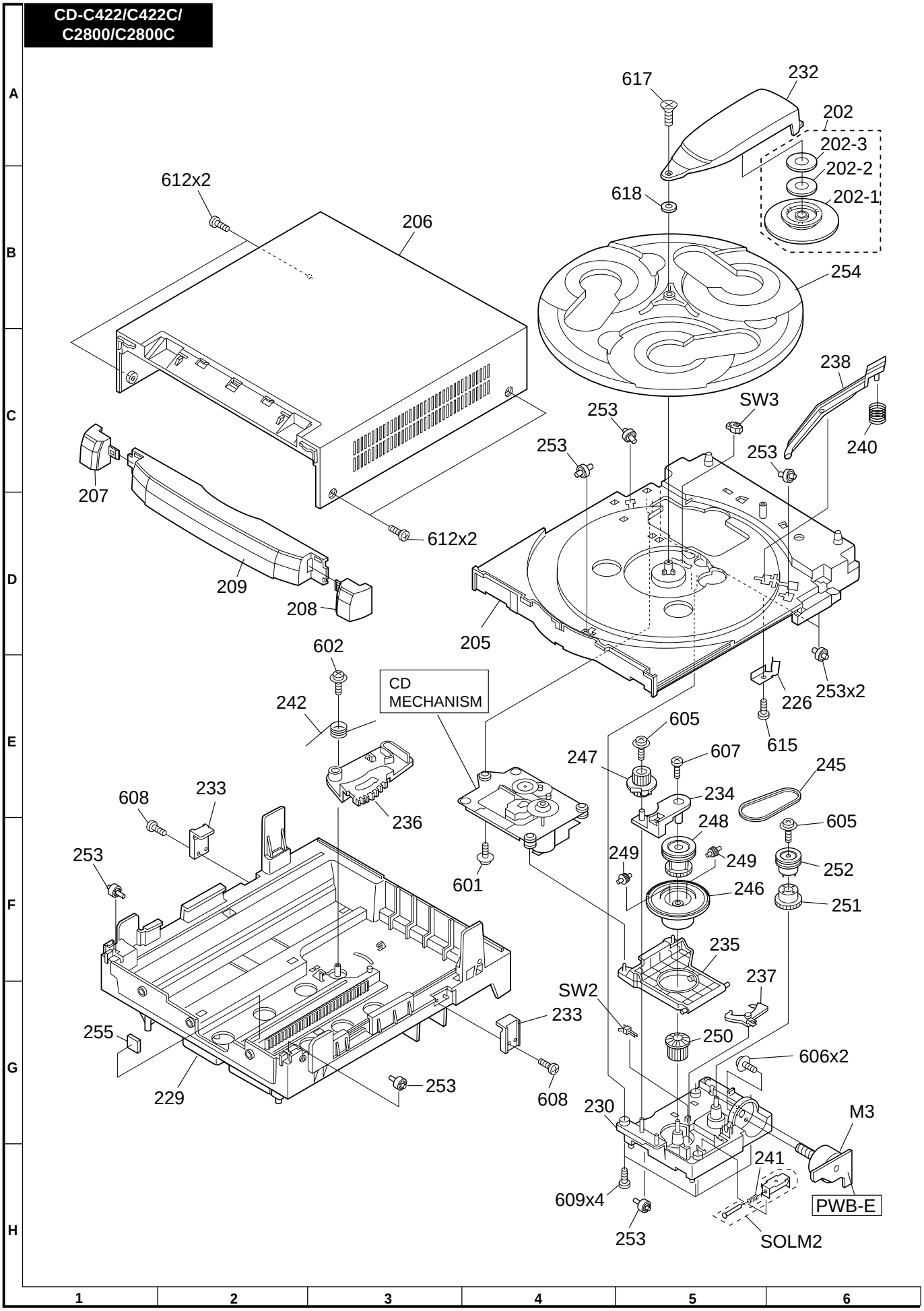


Figure 8 CABINET EXPLODED VIEW (2/2)

CP-C422

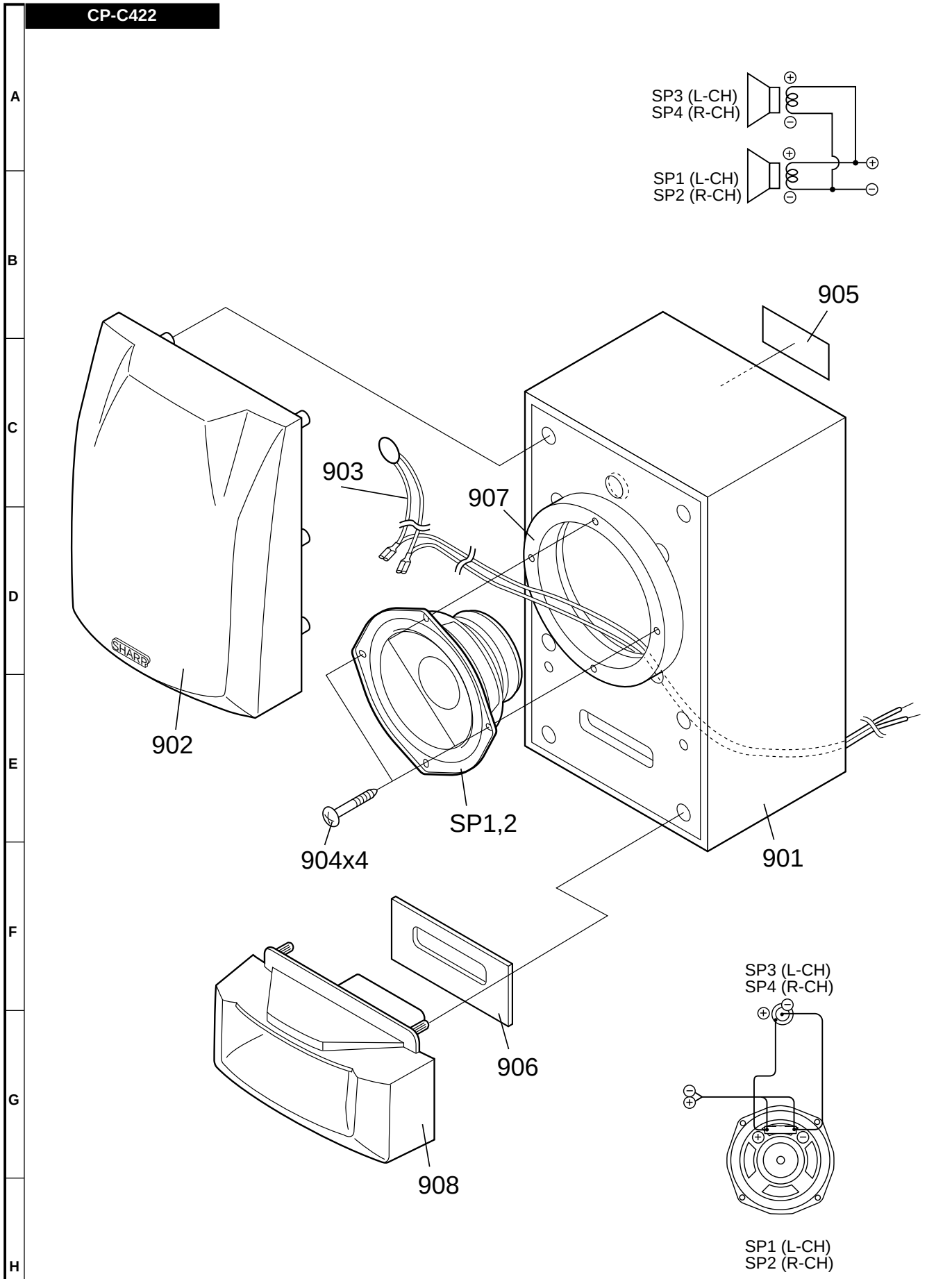
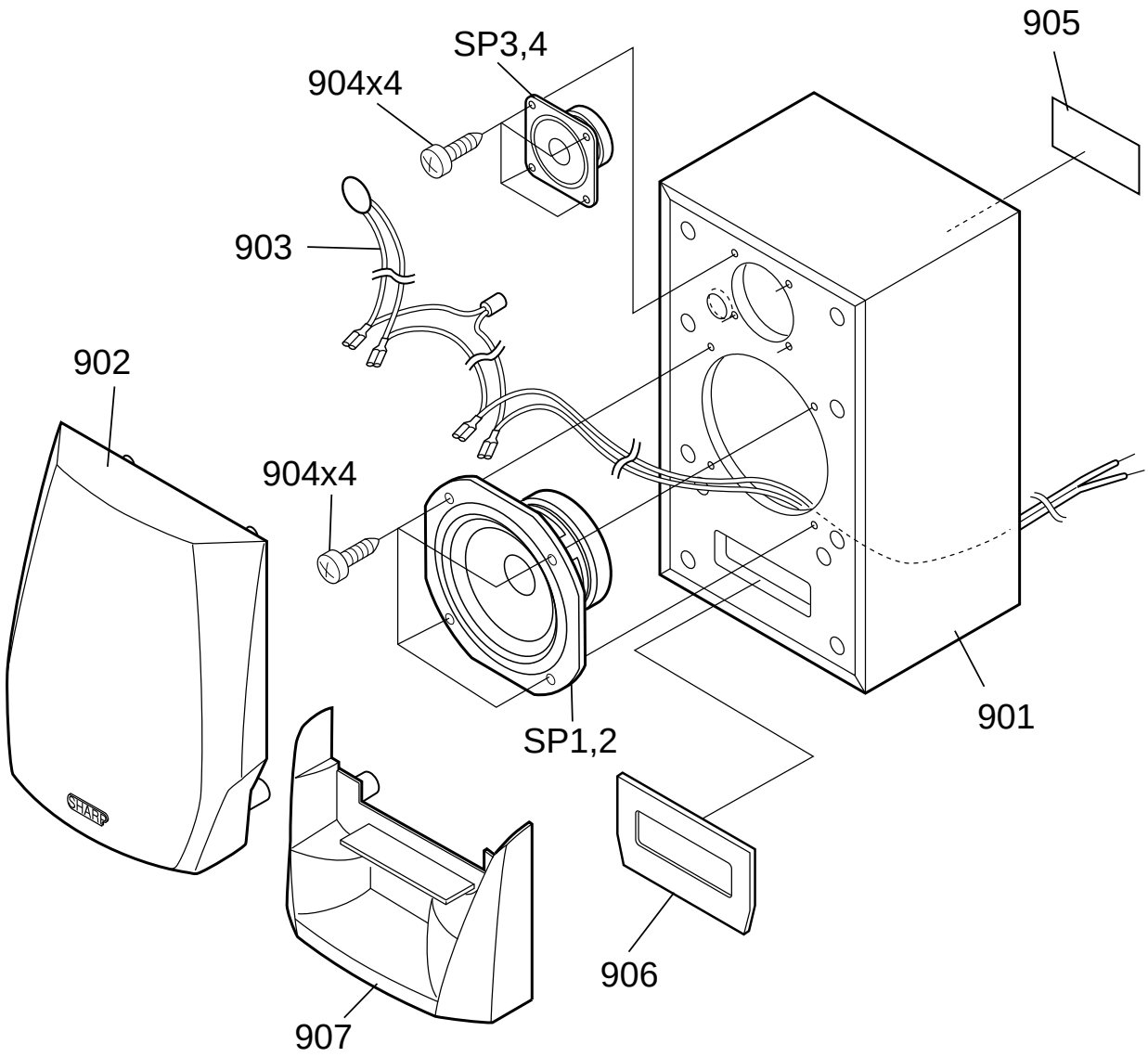


Figure 9 SPEAKER EXPLODED VIEW (1/3)

CP-C2800



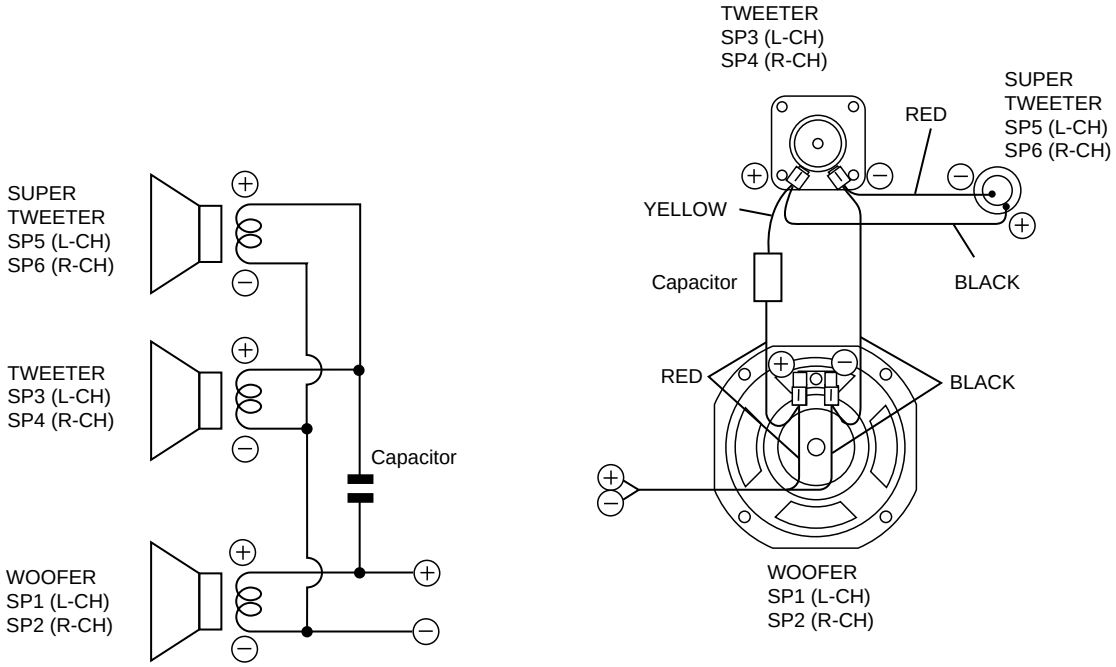


Figure 10 SPEAKER EXPLODED VIEW (2/3)

REAR SPEAKER SYSTEM

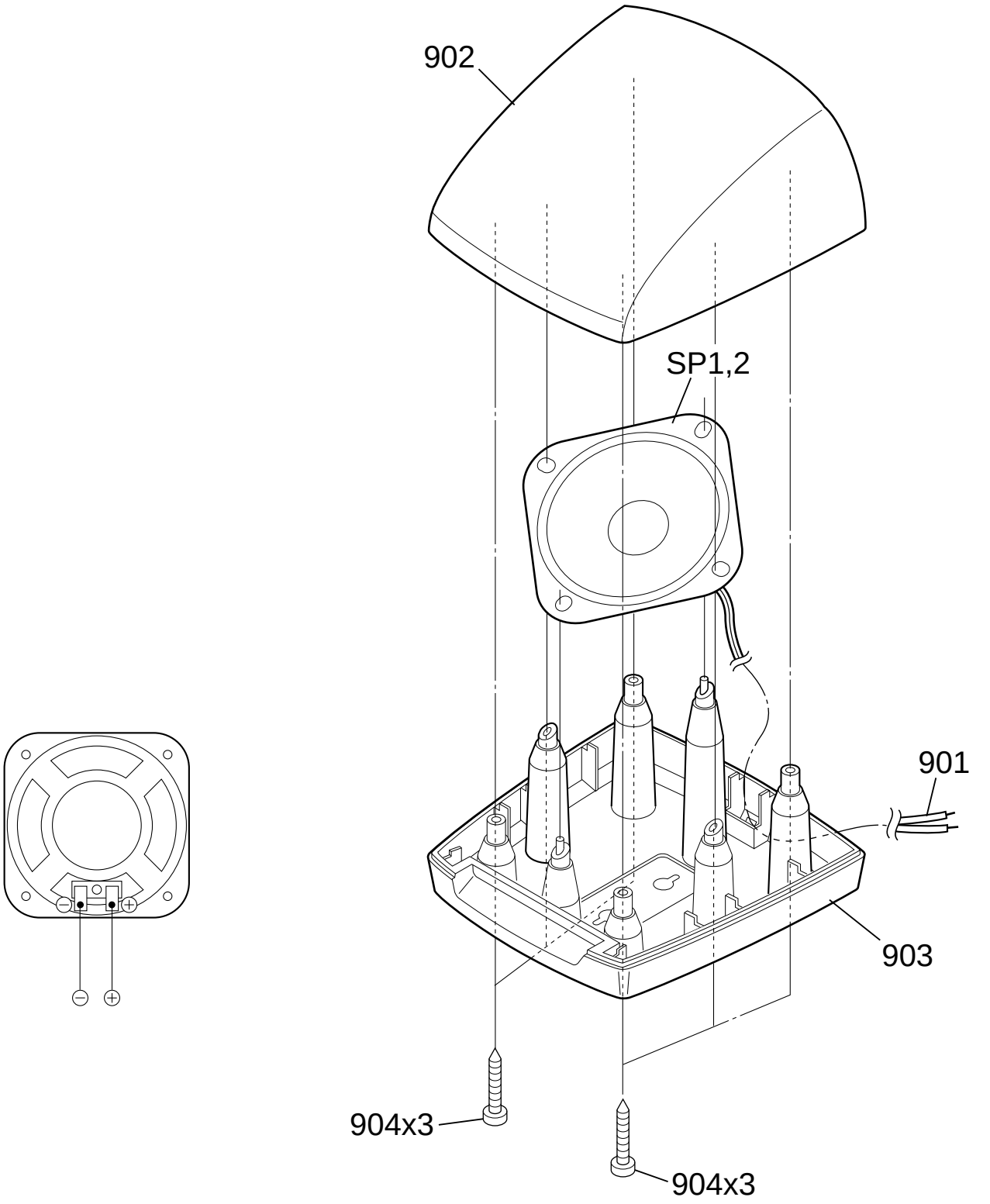
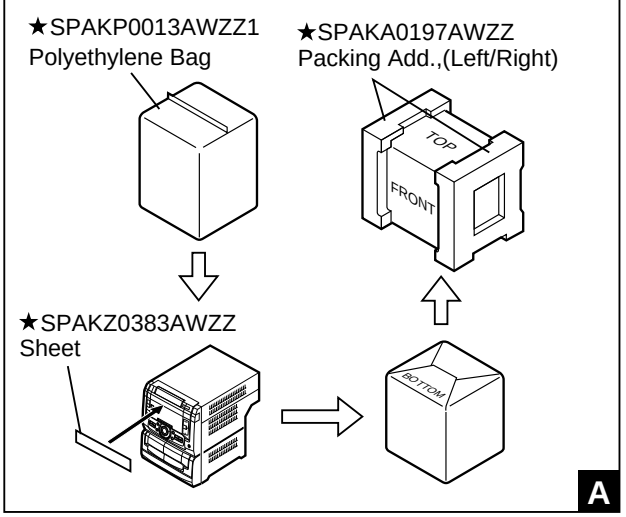


Figure 11 SPEAKER EXPLODED VIEW (3/3)

PACKING OFF THE SET (For U.S.A. Only)

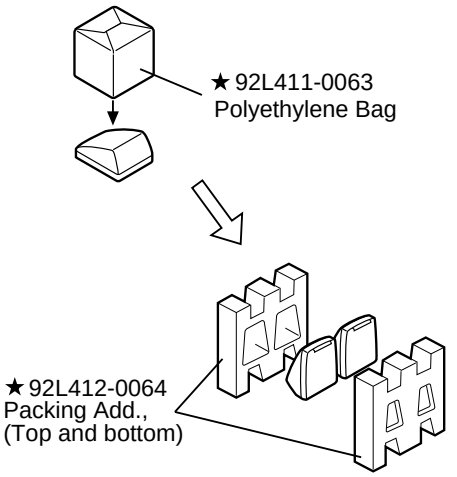
Setting position of switches and knobs	
Tape Mechanism	STOP

Unit | CD-C422/CD-C2800



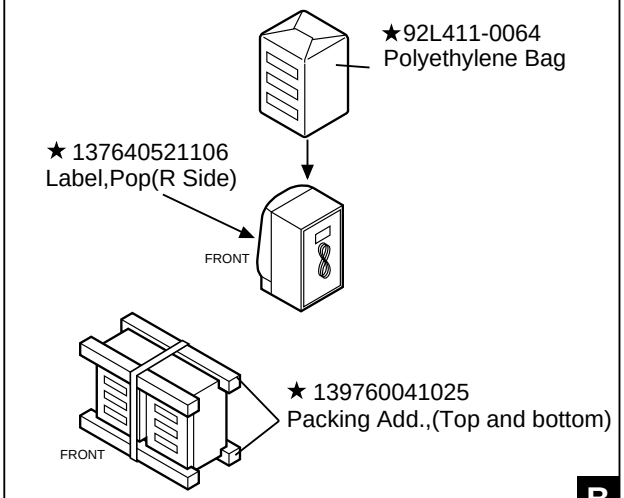
A

Rear Speaker(L/R)



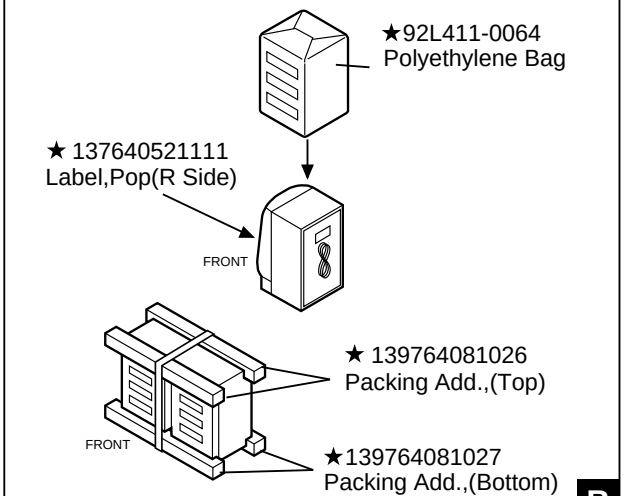
C

Front Speaker(L/R) | CP-C422

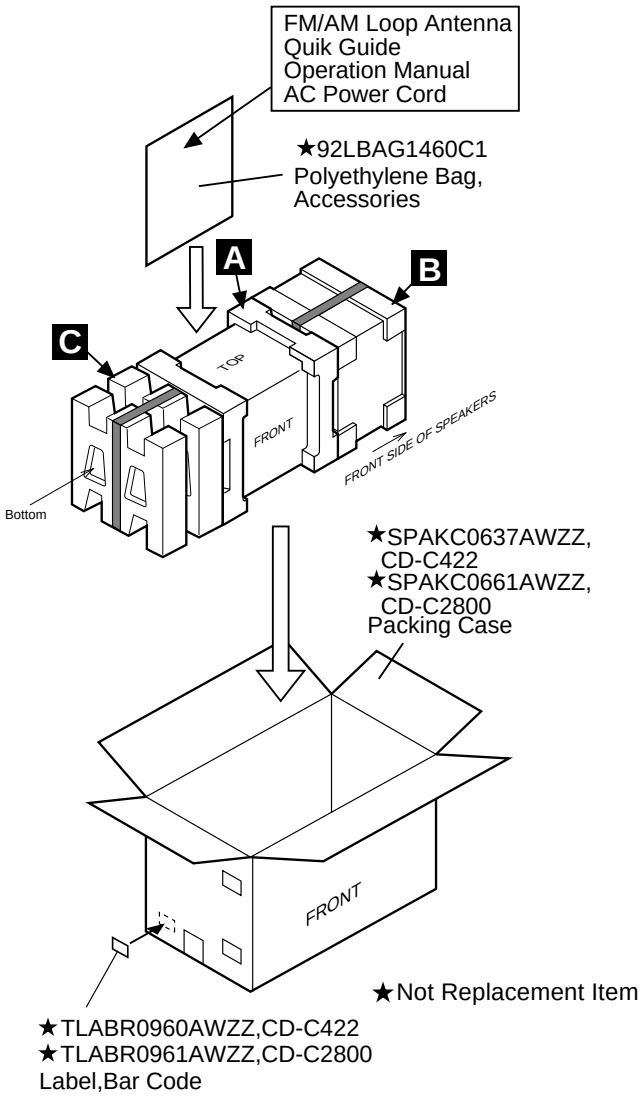


B

Front Speaker(L/R) | CP-C2800



B



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